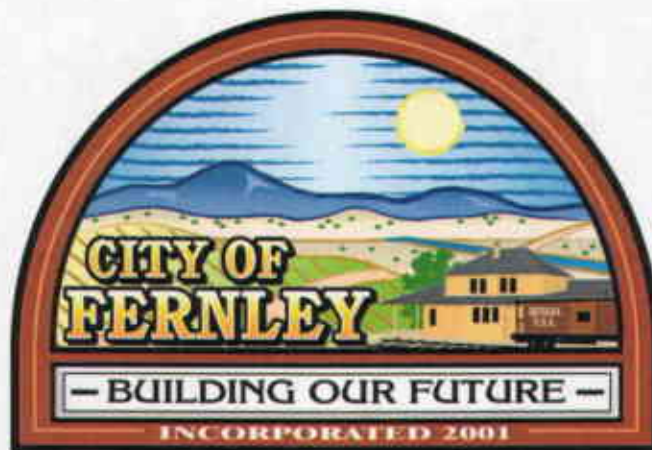


CITY OF FERNLEY PUBLIC WORKS DEPARTMENT WATER DIVISION

Water Conservation Plan
Revised February 29, 2008



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ACKNOWLEDGEMENT

The City of Fernley Public Works Department Water Division Staff wants to acknowledge and thank Mike Workman, Lyon County Utilities Director, and Lyon County Utilities for allowing the City of Fernley to utilize Lyon County's 2005 Water Conservation Plan Revision as a template source. This saved the City of Fernley Public Works Staff precious time and money in order to meet our State deadline by January 2, 2008.

The City of Fernley Public Works Department recognizes the effort involved in creating a comprehensive yet practical conservation plan and will enjoy working together with Lyon County Utilities in the future to ensure Nevada's most precious resource is conserved for future generations.

TABLE OF CONTENTS

INTRODUCTION	iii
1 CONSERVATION GOALS	1
1.1 REDUCE WATER USAGE	1
1.2 COMPLETION AND IMPLEMENTATION OF THE LANDSCAPE CODE	1
1.3 INCREASE THE USE OF WASTEWATER EFFLUENT	1
1.4 INCREASE COMMUNITY PARTICIPATION IN CONSERVATION	1
1.5 MAINTAINING AN ADEQUATE SUPPLY OF WATER	1
1.6 CONSERVATION PLAN ANNUAL AUDIT	2
2 BASE CASE WATER CONSERVATION INCENTIVES AND MEASURES	3
2.1 BASE CASE CONSERVATION INCENTIVES	3
2.2 BASE CASE CONSERVATION MEASURES	5
3 WATER USE PROFILE AND FORECAST	6
3.1 EXISTING SUPPLY SOURCES AND CAPACITIES	6
3.2 IMPACT OF PRIOR CONSERVATION EFFORTS AND REGULATORY REQUIREMENTS	8
3.3 WATER USE FORECAST BASED ON HISTORICAL AND CURRENT USE	9
3.4 WATER USE PROFILE	10
3.5 UNACCOUNTED-FOR WATER	11
3.6 WATER USE FORECAST W/ CONSERVATION EFFORTS APPLIED	11
4 EVALUATION OF PLANNED FACILITIES	13
5 CONSERVATION MEASURES	14
5.1 RESIDENTIAL CONSERVATION MEASURES	14
5.2 LANDSCAPE CONSERVATION MEASURES	17
5.3 INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL (ICI) CONSERVATION MEASURES	20
5.4 DROUGHT CONSERVATION MEASURES	25
5.5 EMERGENCY CONSERVATION MEASURES	30
6 CONSERVATION INCENTIVES	32

6.1	EDUCATIONAL INCENTIVES.....	32
6.2	FINANCIAL INCENTIVES	36
6.3	REGULATORY INCENTIVES.....	37
7	WATER CONSERVATION INITIATIVES AND RECOMMENDATIONS.....	42
7.1	WATER CONSERVATION STAFFING MEASURES	42
7.2	ECONOMIC AND FINANCIAL MEASURES	42
7.3	WATER ORDINANCES	43

APPENDICES

A	BEHAVIORAL CONSERVATION MEASURES
B	WATER WISE TREES, PLANTS, AND LAWNS
C	CONSERVATION WEBSITES
D	WATER CONSERVING APPLIANCES
E	SAMPLE REBATE APPLICATIONS
F	SAMPLE WATER WASTE REPORT FORM
G	SAMPLE WATER AUDIT WORKSHEETS
H	SAMPLE XERISCAPE DESIGNS
I	METER READING INSTRUCTIONS

INTRODUCTION

The City of Fernley Public Works Department Water Division (PWDWD) provides potable water to the customer users of the City of Fernley. The City of Fernley's primary water users are single-family and multi-family residential customers and accounts for an average of 78% of the total water consumption within the City. The remainder is divided among commercial, industrial, government, and construction customer users. There are approximately 7000 billed water customers in July of 2007 within the City of Fernley area.

The following table summarizes the PWDWD systems.

No. of Wells	<i>Tank Capacities (MG) *</i>			
	Northeast	Ricci	Sage	Sage Ranch
7	2.5	1.5	2.5	0.55

* The City's Peach Tank is currently off-line.

All of the potable water supplied by PWDWD comes from groundwater sources: Well 3, Well 4, Well 9, Well 9A, Well 11, Well 13 and Well 14.

According to the US Water Resources Council conservation activities are "activities designed to (1) reduce the demand for water, (2) improve efficiency in use and reduce losses and waste of water, or (3) improve land management practices to conserve water." With this in mind an effective water conservation program should include the following three elements:

- Conservation Incentives
- Conservation Measures
- Conservation Education

Incentives to conserve may include rebates, credits, rate structures, or any other reason that makes it attractive to participate in conservation efforts. Measures include those things that literally conserve water, for instance low-flow toilets, timed irrigation, etc... Water conservation education can be done through the use of websites, instructional videos, and clinics. By making this plan accessible to the public, the plan itself can be used as an educational tool.

This plan will describe the water system capacities and conservation programs currently in effect in the PWDWD service area. It will also identify potential conservation measures and incentives as well as future conservation goals. Many of the conservation measures and/or incentives within this document are purely educational, and as such, will not be imposed or enforced. The utility will monitor water use to determine if existing conservation programs should be modified or discontinued or if new programs should be added to make the plan more efficient. This plan is a living document and will be revised as necessary to meet system requirements. These requirements may include increases or decreases in demand, the addition or subtraction of programs, and/or changes in technology. The plan will be reviewed in January each year to insure that the information it contains is current and correct. It will be an integrated part of the utility's water master plan and updates will be made pursuant to changes in planning made within the system. This plan is compliant with the requirements of the Nevada Revised Statutes (NRS) sections 540.131 through 540.151 and is available for public inspection at the following location and/or at the City's website:

City of Fernley
Public Works Department
595 Silver Lace Blvd.
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Public comments about this plan are encouraged. Written comments may be sent to the following address:

City of Fernley
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1 CONSERVATION GOALS

The following are the water conservation goals of PWDWD.

1.1 REDUCE WATER USAGE

Water usage within the service area can be reduced by approximately 10%.

1.2 COMPLETION AND IMPLEMENTATION OF THE LANDSCAPE CODE

Unfortunately the PWDWD doesn't currently operate with an adopted Landscape Code but understands the importance that an integrated Landscape Code has on the ability of a municipality to increase water conservation efforts. Shortly following the adoption of this Plan, the PWDWD will draft a Landscape Code to be adopted as an Addendum to this Conservation Plan.

1.3 INCREASE THE USE OF WASTEWATER EFFLUENT

The Public Works Department Wastewater Division (PWDWWD) is currently permitted to discharge the City's secondary treated disinfected effluent as reuse irrigation to the Fernley Wildlife Management Area at a daily maximum rate of 3.05 million gallons per day (MGD). Future Capital Improvement Projects may create methods to utilize the effluent to be used within the City's Alternative Water System. The City is also currently negotiating with various industrial users to explore industrial reuse of treated effluent.

1.4 INCREASE COMMUNITY PARTICIPATION IN CONSERVATION

One way to increase public participation in conservation is to increase awareness through education. A successful educational program provides information to the public that helps and motivates water users in their efforts to conserve. Educational materials and resources can include:

- Home and Landscape guides
- Mailers
- Websites
- Lawn Watering Schedules
- Plumbing Fixture Retrofit Kits provided by the utility
- Video Instruction
- Water Watcher personnel
- Home Water Audits
- Water Hotlines
- The Water Conservation Plan

Regardless of the type of educational resources that are used, the most important consideration is their content and if the information is disseminated successfully.

1.5 MAINTAINING AN ADEQUATE SUPPLY OF WATER

The primary goal of water conservation is to insure that there is sufficient water for essential public health and safety needs at all times. The climate in Northern Nevada is arid and subject to periodic droughts that can vary in duration. It is important therefore to have a reserve on hand for such events. Conserving water during times of plenty will insure that such reserves are available for drought and emergency conditions.

1.6 CONSERVATION PLAN ANNUAL AUDIT

The conservation plan should be reviewed annually to evaluate the success of plan goals and recommendations. The annual review should also be done to update conservation incentives and measures and modify or add to them as new ideas and/or technologies are developed.

END OF SECTION

2 BASE CASE WATER CONSERVATION INCENTIVES AND MEASURES

2.1 BASE CASE CONSERVATION INCENTIVES

A conservation incentive by definition is something that raises awareness about saving water. There are three classes of conservation incentives: (1) educational, (2) financial, and (3) regulatory. The following incentives are currently part of the conservation program in the PWDWD service area. The incentive classification for each of these is in parentheses.

2.1.1 City of Fernley Water Shortage and Waste of Water Ordinance (Regulatory)

The City of Fernley currently has an ordinance in place that is intended to limit water use during a water shortage or to restrict use if it is found that water is being wasted. The ordinance defines "water shortage" and "waste of water" but currently does not include sections on enforcement through the use of citations, fines, and discontinuation of service. (see Amended Ordinance #10). The PWDWD is currently drafting an Amendment for Amended Ordinance #10 which will address enforcement, citations, fines & discontinuation of service.

2.1.2 Landscape Code (Regulatory)

The PWDWD has estimated that as much as 77% of the summer water use is used for landscaping purposes. As such, adopting a Landscape Code could be a great asset when trying to implement water conservation measures. In the beginning of 2008, PWDWD will be drafting a Landscape Code that will provide guidelines for both residential and commercial/industrial landscape applications.

2.1.3 Conservation Literature (Educational)

The PWDWD currently has a multitude of educational materials which are available at the City of Fernley Public Works Department. These materials range from ways to save water, as shown in Section 6.1 of this plan, to volunteer operational watering schedules, to children worksheets and coloring books. PWDWD will continue to expand its literature base with a pamphlet to hand out to all new water customers, set to come out by the beginning of 2008.

2.1.4 Watering Schedule (Regulatory)

PWDWD intends to implement, an Odd/Even watering schedule with a single day per week aquifer recovery day for the service area. This schedule will be mailed to all PWDWD customers and will include a list of conservation tips.

2.1.5 Water Conservation Plan (Educational)

The information in this water conservation plan can be used for educational purposes.

2.1.6 Water Meters (Financial)

All of the approximately 7000 water customers of PWDWD are metered. As of July 1, 2007, the rates for all customer classes are the following:

- 1) Residential: Individually Metered per table 2.1
- 2) Residential: Master Metered per table 2.2
- 3) Commercial per table 2.3
- 4) Construction Water per table 2.4

TABLE 2.1

Residential: Individually Metered

Meter Size	Base Charge per Meter	July 2007-June 2008 WATER RATES		
		0-8 kgal	Volume Charge per kgal 8-30 kgal	Over 30 kgal
¾"	\$ 10.07	\$ 1.11	\$ 1.61	\$ 2.11
1"	\$ 16.71	\$ 1.11	\$ 1.61	\$ 2.11
1 ½"	\$ 27.67	\$ 1.11	\$ 1.61	\$ 2.11
2"	\$ 41.08	\$ 1.11	\$ 1.61	\$ 2.11
4"	\$ 119.13	\$ 1.11	\$ 1.61	\$ 2.11
6"	\$ 229.97	\$ 1.11	\$ 1.61	\$ 2.11

TABLE 2.2

Residential: Master Metered

Meter Size	Base Charge per Meter	July 2007-June 2008 WATER RATES		
		0-8 kgal	Volume Charge per kgal 8-30 kgal	Over 30 kgal
¾"	\$ 10.04			
1"	\$ 16.64			
1 ½"	\$ 27.52		\$ 1.42	
2"	\$ 40.84			
4"	\$ 118.37			
6"	\$ 228.44			

TABLE 2.3

Commercial

Meter Size	Base Charge per Meter	July 2007-June 2008 WATER RATES		
		0-8 kgal	Volume Charge per kgal 8-30 kgal	Over 30 kgal
¾"	\$ 11.69			
1"	\$ 20.76			
1 ½"	\$ 35.77			
2"	\$ 54.04		\$ 1.44	
4"	\$ 159.63			
6"	\$ 310.97			
8"	\$ 492.42			

TABLE 2.4

Construction Water

Usage Type	Deposit Required	Base Charge	Volume Charge per kgal
Hydrant Meter	\$ 1600	\$ 41.52	\$ 1.35
Well #8 Key	\$ 100	\$ 40.00	\$ 0.54

Although water meters are a device, they don't actually save any water according to the definition of a conservation measure. Because of this they are considered a conservation incentive.

2.2 BASE CASE CONSERVATION MEASURES

There are two classifications of conservation measures: (1) Hardware or equipment and (2) behavior or management practices. The following conservation measures are being used in the PWDWD conservation program. The measure classification is in parentheses.

2.2.1 Effluent Use (Behavior/Management)

Currently PWDWD is producing secondary treated effluent for reuse irrigation. The treated effluent is being produced at the City's East Wastewater Treatment Plant. The City is also currently negotiating with various industrial users to explore industrial reuse of treated effluent. The ability to utilize the reuse effluent could greatly reduce the potable water use at an average daily rate of 1.36 million gallons per day.

2.2.2 Leak Detection

PWDWD currently detects leaks through meter readings. Whenever a meter shows unusually high use PWDWD personnel are sent to investigate. If a leak is discovered the customer is notified. Presently PWDWD does not have a distribution level leak detection program in place, but is currently seeking funds within next years fiscal budget (FY08/09) to obtain the services of a leak detection firm. Appendix I has residential meter reading and leak detection instructions.

END OF SECTION

3 WATER USE PROFILE AND FORECAST

This chapter provides a description of the PWDWD water system. Section 3.1 identifies supply sources with their individual capacities. Section 3.2 addresses the impact of past conservation efforts and regulatory requirements. Sections 3.3, 3.4, and 3.5 discuss system forecasts, water profiles, and unaccounted for water respectively. Section 3.6 includes forecasts that have been adjusted by application of future conservation measures.

3.1 EXISTING SUPPLY SOURCES AND CAPACITIES

The 7 wells PWDWD currently operates to supply the City's customers with potable water are displayed in Table 3.1. Table 3.1 also summarizes the average and peak demands for each well for the year 2006.

TABLE 3.1

Well summary for City of Fernley PWDWD

<i>Name</i>	<i>2006 Average Monthly Demand (gal)</i>	<i>2006 Peak Demand (gal)</i>	<i>Month of Peak Demand</i>
Well 3	3,692,083	8,767,000	July
Well 4	29,872,750	50,559,000	August
Well 9 *	0	0	NA
Well 9A	33,845,083	61,377,000	August
Well 11	51,347,000	101,505,000	August
Well 13	15,993,083	38,718,000	August
Well14 **	0	0	NA

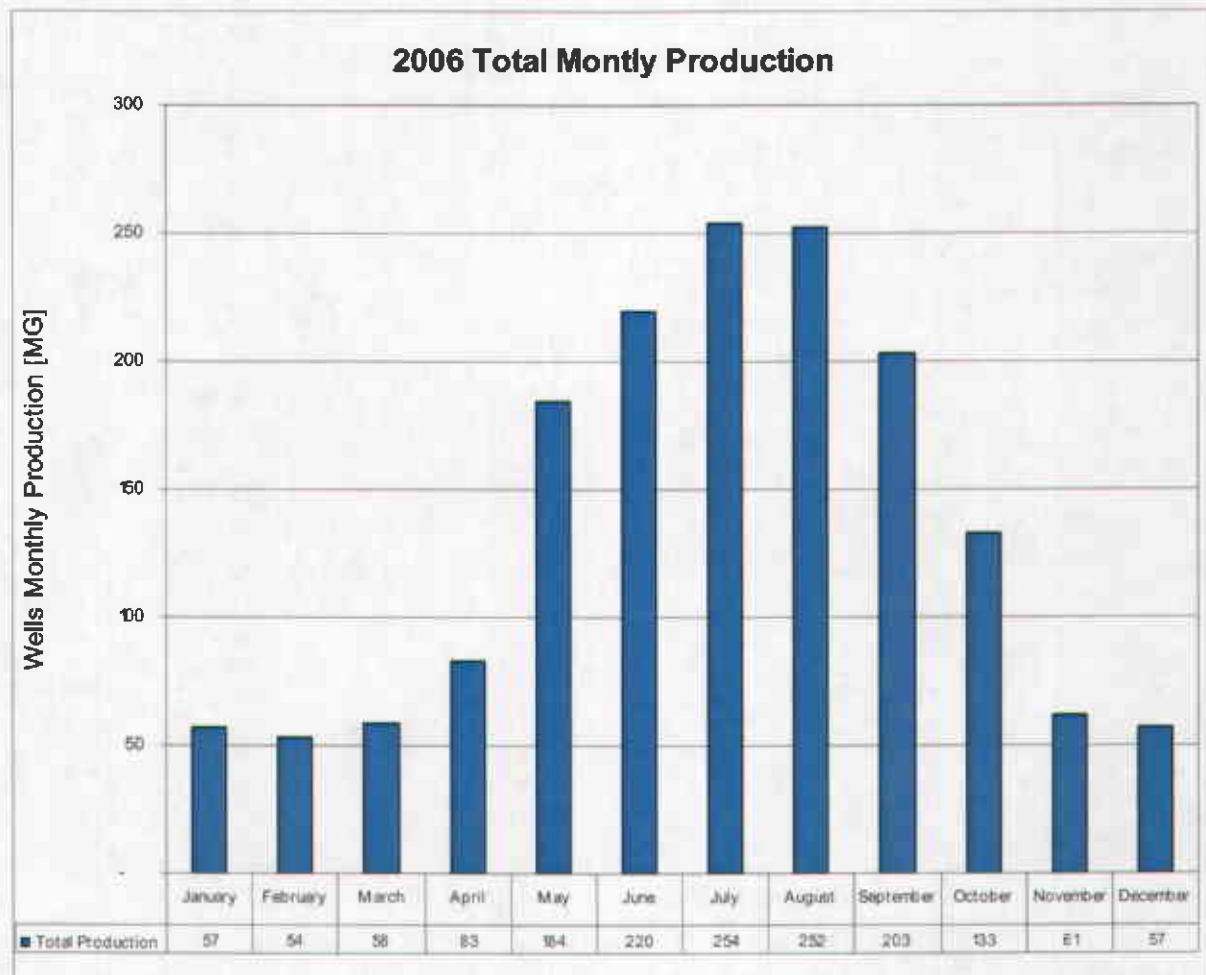
* Well 9 did not operate in 2006.

** Wells 14 was commissioned in 2007, resulting in no generational demand in 2006.

Figure 3.1 show the total monthly production (2006) of City of Fernley wells.

FIGURE 3.1

2006 Total Monthly Production of City of Fernley Wells



PWDWD has observed that approximately 77% of summer water consumption is used for landscape irrigation purposes. The peak in Figure 3.1 proves this to be true.

3.1.1 Water Rights

Table 3.2 is a summary of "Water Rights" for the City of Fernley.

TABLE 3.2**City of Fernley Water Rights****UNDERGROUND WATER RIGHTS**

Name	Manner of Use	No. of Permits	Total Duty (AF)
Base Right	Municipal		8,644.26
Fernley Estates Dedication	Quasi-Municipal		155.76
BZ2H Dedication	Municipal		101.45
Rainbow Trust Dedication	Irrigation		990.40
Totals			9,891.87

*Underground Water Rights were obtained from City of Fernley 2005 Water Master Plan

SURFACE WATER RIGHTS

Water Right Category	No. of Permits	Total Duty (AF)
Permitted Water Rights	NA	1,901.67
Awaiting State Engineer Ruling	NA	3,432.72
Pending State Engineer Hearing & Ruling	NA	2,034.28
Requires submittal of change applications	NA	1,720.46
Totals		9,089.13
GROUNDWATER & SURFACE WATER	Totals	18,981

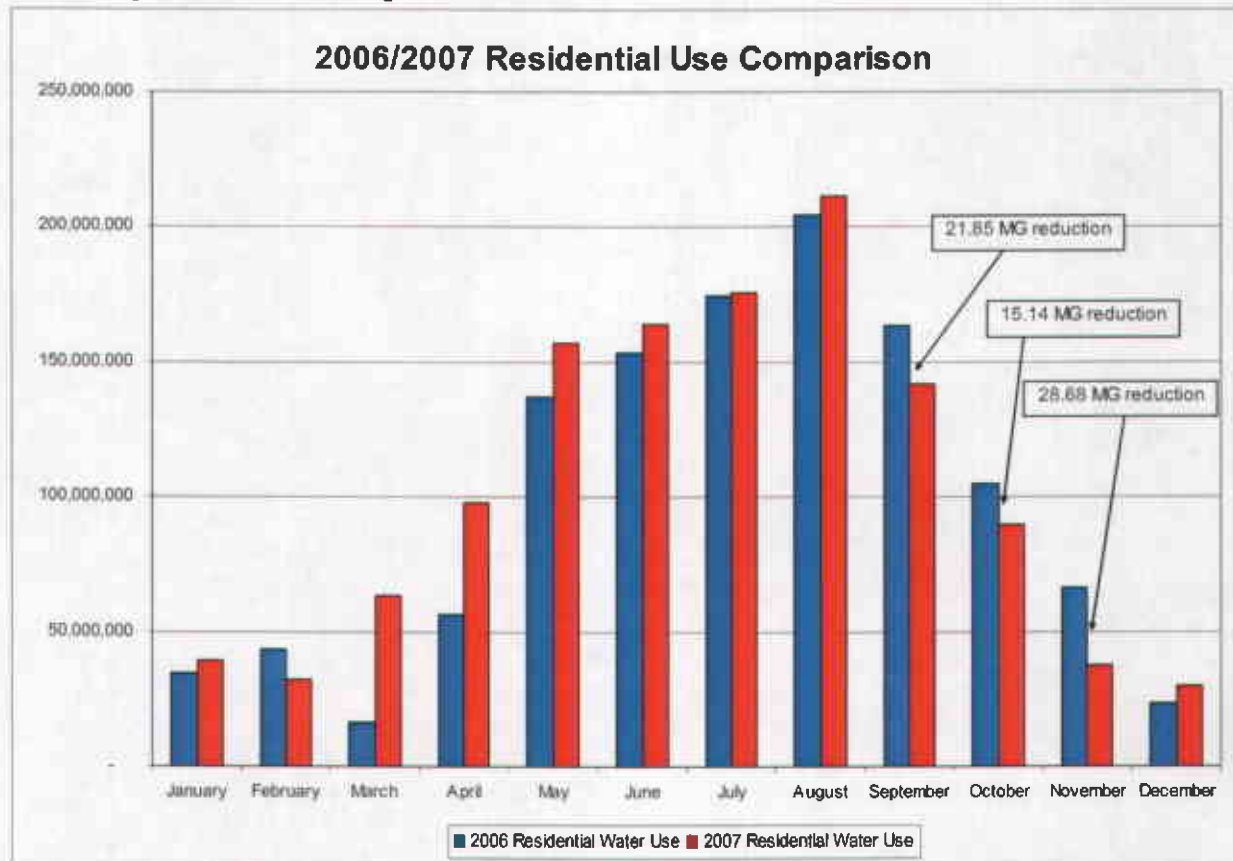
In addition to the above water rights, PWDWD has water rights that could become available for future use. Those water rights are included in the 2007 City of Fernley Public Works Department Water Master Plan Update.

3.2 IMPACT OF PRIOR CONSERVATION EFFORTS AND REGULATORY REQUIREMENTS

There has been no recorded impact from prior conservation efforts. However rates were raised in July 2007 to pay for system improvements and PWDWD observed a slight decrease in residential water use. During the months of September thru November of 2007 a monthly average water use reduction of 21.9 MG (or 23.7%) was calculated from the same months in 2006. This can be seen in figure 3.2.

FIGURE 3.2

Water Usage Reduction following Rate Increase in 2007

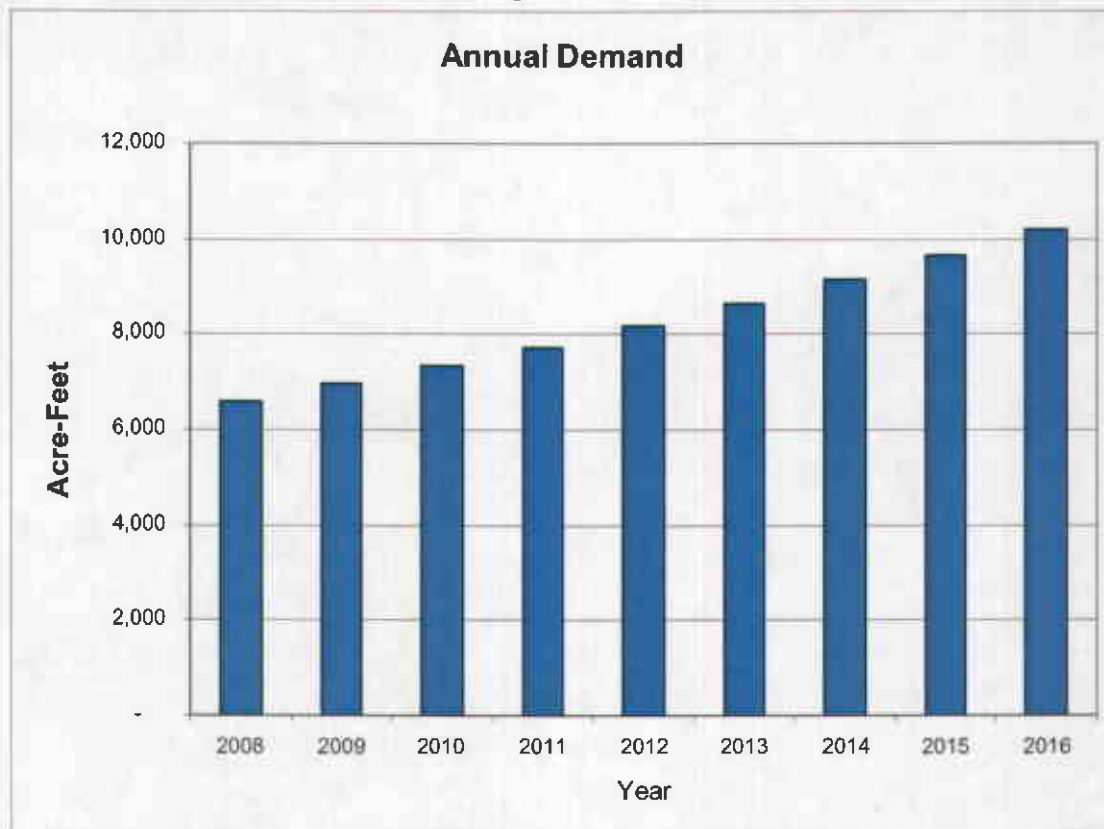


3.3 WATER USE FORECAST BASED ON HISTORICAL AND CURRENT USE

Figure 3.3 shows the demand forecast for 2008 through 2016 for the City of Fernley. This forecast is based on an assumed increase in number of customers of 5.7 percent per year using the current average use per customer per year for each customer class.

FIGURE 3.3

City of Fernley Water Use Forecast 2008 Through 2016

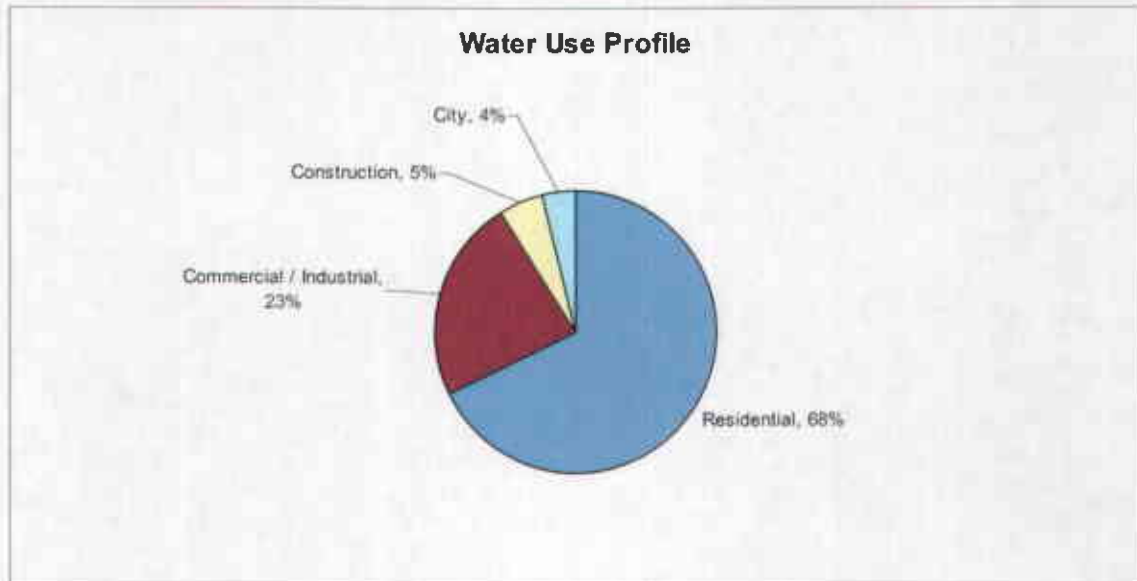


3.4 WATER USE PROFILE

Figure 3.4 is the average water use profile for the City of Fernley system for 2006.

FIGURE 3.4

City of Fernley Average Water Use Profile for 2006



The average monthly use per customer in the City of Fernley is approximately 21,000 gallons.

3.5 UNACCOUNTED-FOR WATER

The amount of unaccounted-for water was determined by comparing the City of Fernley well pumping records with customer meter records for the period between January 1 and December 31, 2006.

3.5.1 PWDWD Production / Usage

Information taken from pump and meter records for the PWDWD system for the period between January 1 and December 31, 2006 produced the following results:

Water Pumped:	4,962 acre-feet
Water Used by Customers:	4,893 acre-feet
Unaccounted-For-Water:	69 acre-feet

It is important to note that Public Works staff installed a new flow meter in late December of 2007 at Well 4, and observed an increase in water flow of about 200gpm. During high usage months, if this Well was operating 100% of the time, this difference in water flow equates to approximately 288,000 gallons per day (8.64 million gallons per month). This increase in actual water production shows that system efficiencies are greater than have been calculated, though difficult to actually determine.

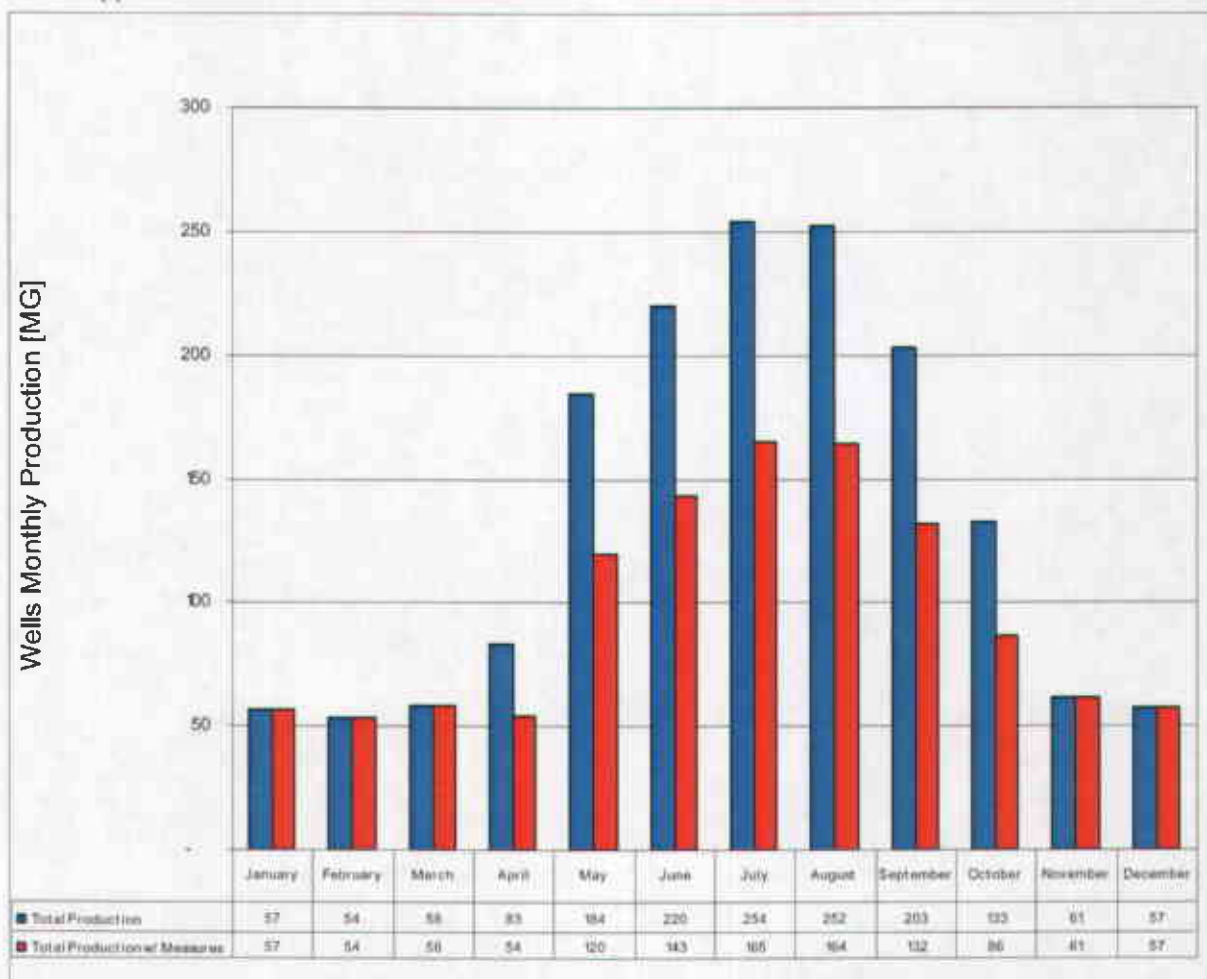
3.6 WATER USE FORECAST W/ CONSERVATION EFFORTS APPLIED

Figure 3.5 shows the actual consumption for 2006 taken from figure 3.1 and a projected reduced consumption. PWDWD has determined that approximately 75 percent of the City of

Fernley's summer water use is for landscape irrigation and currently water customers in the PWDWD service area are allowed to water every day of the week. Figure 3.11 displays the estimated reduction in water usage by applying a 2-day-per-week schedule to all water users, with Monday of each week being a rest day for the water system. During this 2-day-per-week schedule, each residential parcel having an even address number will be allowed to water on Wednesdays and Saturdays; with each parcel having an odd address number will be allowed to water on Thursdays and Sundays. During this 2-day-per-week schedule, each commercial/industrial facilities will be allowed to water on Tuesdays and Fridays. It is difficult to determine what the system water use will be after this water use restriction has been applied. For analysis purposes the PWDWD evaluated a reduction of approximately 35%, or approximately 332.1 gallons per day per customer, during the irrigation season from figure 3.1.

FIGURE 3.5

2006 Total Monthly Production of PWDWD Wells with and without Conservation Measures Applied



4 EVALUATION OF PLANNED FACILITIES

SEE THE CITY OF FERNLEY WATER MASTER PLAN UPDATE FOR THIS INFORMATION.

END OF SECTION

5 CONSERVATION MEASURES

As stated in section 2, conservation measures are divided into two types: (1) Hardware/Equipment measures and (2) Behavioral/Managerial measures. Conservation measures can also be classified into five categories of application: (1) Residences, (2) Landscape, (3) Industrial, Commercial, and Institutional (ICI) (4) Agricultural, and (5) Water Utilities. The following conservation measures will be classified first by application and then by type. Though specific water use reductions may be described in various locations, none of the conservation measures described in this section will be imposed or enforced, but are rather to be used as a guide and/or reference for potential conservation methods, unless otherwise noted. Only in the event of a drought or emergency conservation measure, as described in Sections 5.4 & 5.5, will the PWDWD enforce water use restrictions, unless specifically stated within this plan or the City of Fernley's Amended Ordinance #10. The extent of water use restrictions will vary depending on the severity of the emergency and is, as a result difficult to quantify.

5.1 RESIDENTIAL CONSERVATION MEASURES

5.1.1 Behavioral Measures

Appendix A contains a list of behavior conservation measures that can be used in the home on a daily basis. This list is not to be considered complete and other ideas are encouraged and can be added to the list.

5.1.1.1 Residential Water Audits

Water audits potentially could be offered to all PWDWD customers or targeted to high-volume users only. Water audits can be valuable in locating inefficiencies in residential water systems including leaks, inefficient fixtures and appliances, and poor water use habits.

The average residential water audit should take no more than 30 to 45 minutes¹. The water audit should include the following elements:

- Purpose for the audit.
- Estimation of use for all fixtures and appliances.
- Check for and repair leaks.
- Evaluation of Landscape (See "Landscape Conservation Measures)
- Evaluation of outdoor water use.
- Evaluate efficiency measures.
- Educate customers using available flyers

If the budget allows, water saving devices could be distributed on the occasion of a water audit (shower heads, automatic nozzles, etc...). A sample residential water audit worksheet is provided in Appendix G.

5.1.2 Hardware/Equipment Measures

A residential water audit should be conducted to help determine where water losses and/or inefficiencies are occurring and what measures should be used to reduce or eliminate them. This section will cover devices that are designed to reduce water consumption in the home.

5.1.2.1 Low-Flow Toilets

Toilets are usually the largest source of indoor water use. Current law¹ mandates that toilets that are sold, manufactured or imported in the United States have a flush volume of no more than 1.6 gallons per flush (gpf). Nevertheless there are still toilets

¹ The federal EPAAct of 1992 mandates that all gravity tank, flushometer-valve, flushometer-tank, and electromechanical hydraulic toilets shall use maximum of 1.6 gpf.

in homes built before the enactment of this law which have flush volumes as high as 5.5 gpf.

Low-volume toilets (1.6 gpf or less) are available for new or retrofit applications. The operation of these toilets is the same as the higher volume toilets and typically they perform just as well. It is estimated that these toilets can save up to 31 gallons per day per person.

Toilet retrofit devices are an alternative to replacing an old toilet with a low-flow model. There are a number of retrofit devices available which can reduce the flush volume on old toilets. The most common apparatus include:

- Bladders (bags)
- Dams
- Early Close Flappers
- Various adjustments and hardware for flush valve fixtures

Toilet leak repairs can eliminate a large source of water loss, up to 20 gallons per day per toilet. Sources of toilet leaks may include worn parts and/or poorly sized replacement parts. Toilet leaks can be detected through the use of dyes. Food coloring can be used to detect toilet leaks by placing several drops in the tank.

5.1.2.2 Low-Volume Shower Heads

Medium to high volume shower heads use anywhere between 2.75 to 8.0 gpm. Federal law states within the EPA Act of 1992 that low-volume shower heads use no more than 2.5 gpm @ 80 psi (2.2 gpm @ 60 psi)², which can save up to 55 gallons per person per shower. There are 3 basic methods to measure shower-head flow rates: (1) run the shower in a pre-measured bucket and calculate the flow rate (gpm), (2) read the water meter before and after running the shower making sure that all other fixtures are off during the test, and/or (3) look on the shower head itself for the rated flow.

Low-volume showerheads can be wall-mounted or handheld style. Optional features available in low-volume showerheads include aerating spray, atomizing, pulsating, and temporary shutoff buttons.

Showerhead retrofit devices can be installed in existing high-volume showerheads to reduce flow in high-volume heads. There are two basic types of retrofit devices: temporary cutoff valves and flow restricting disks. Cutoff valves can reduce use but are only effective if they are designed and installed properly. Flow restricting devices are typically a disk with a hole in the center and are usually not very efficient. Because High-volume showerheads are designed to provide specific spray characteristics based on flow, a reduction in volume by a restriction device can produce undesirable spray patterns. Installation of a low-volume showerhead is therefore recommended instead of retrofit hardware.

5.1.2.3 Faucets

There are three basic conservation measures for water faucets: Low volume faucets, faucet retrofit devices and faucet leak repair.

Low-volume faucets are designed to produce the same maximum flow as low-volume showerheads (2.5 gpm @ 80 psi or 2.2 gpm @ 60 psi). Kitchen faucets usually have a higher maximum flow (2.5 gpm) than bathroom faucets (2.0 gpm).

² 1998 Amendment to Federal EPA Act requires flow to 2.2gpm @ 60psi.

Faucet flow rates can be determined by the same methods used for measuring showerhead flow rates (see section 5.1.2.2).

Faucet retrofit devices can be installed on existing high volume faucets. These devices include aerators and metered valve, self closing, or sensor activated faucets. Of these four devices the aerator is the most economically practical, can be easily installed, and delivers performance comparable to new, low volume faucets. Aerators can also be removed periodically for cleaning to insure efficient operation. The other devices are more expensive and may not be practical for residential use.

Repairing faucets can reduce water waste and faucets should be checked regularly for leaks. In the event a leak is discovered, washers can be replaced and/or the faucet can be tightened and repacked.

Reducing water pressure in a house can reduce flow through and wear on fixtures caused by higher pressures. It is important however that repairs or adjustments be performed by someone who is qualified to do so.

5.1.2.4 High Efficiency Appliances

Currently there are no laws that mandate the amount of water that high efficiency clothes washers or dishwashers should use. Nevertheless there are a number of models on the market that are water efficient. Tables 5.3 & 5.4 show the water use rate for clothes washers and dishwashers, respectively.

TABLE 5.3

Water Efficient Clothes Washers by Year Manufactured

Years Manufactured or Installed	Water Use Rate Gallons per load
1998 - Present	27
1990 - Present	39
1980 - 1990	43
Pre-1980s	51
	56

TABLE 5.4

Water Efficient Dishwashers by Year Manufactured

Years Manufactured or Installed	Water Use Rate Gallons per load
1997 - Present	4.5
1995 - Present	7.0
1990 - 1995	7.0 – 10.5
1980 - 1990	9.5 – 12.0
	14.0

Water efficient appliances are typically also energy efficient; functioning as well as and, in most cases, better than machines that require more water to operate.

5.1.3 Leak Detection

Leaks are an unnecessary source of water loss in a home. Appendix I has instructions on how to read a water meter and use it to detect leaks in a home.

5.2 LANDSCAPE CONSERVATION MEASURES

5.2.1 Behavioral Measures

Appendix A contains a list of behavior conservation measures that can be used in the installation and maintenance of a landscape. This list is not to be considered complete and additional ideas are encouraged.

5.2.1.1 Landscape Water Audit

PWDWD has determined that approximately 77% of summer water use is for landscape. For this reason, audits of landscape irrigation systems will probably yield the largest potential water savings. Residential landscape audits take about an hour, however audits of parks or golf courses may take a day or more². The fundamental steps for a landscape water audit should include the following:

- Purpose for the audit.
- Estimation of outdoor use based on meter records.
- Check for and repair leaks.
- Evaluation of Landscape (size, soil, amount of turf, types of plants)
- Evaluation of irrigation system (Timers, Use of drip, Precipitation amounts).
- Efficiency recommendations.
- Educate customers using available flyers

If the budget allows, water saving devices could be distributed on the occasion of a water audit (automatic nozzles, etc...). A sample landscape water audit worksheet is provided in Appendix G.

5.2.1.2 Xeriscape™

Xeriscape is a method of landscaping that employs low-water use plants, turf, ground covers, shrubs and trees. It includes careful planning, soil analysis, and irrigation system design. Appendix H has examples of xeriscape designs taken from the City of Albuquerque water conservation website.

5.2.2 Hardware/Equipment Measures

Landscape hardware measures, which can save hundreds of gallons per month, consist of two basic groups: (1) Landscape materials and (2) irrigation equipment. Landscape materials that could be considered conservation measures are those which use the least amount of water possible and are well suited to the climate in Northern Nevada. These include mulches (organic and inorganic), trees, plants, and lawn. Irrigation equipment includes all hardware used to supply water to the parts of the landscape that require it. The following sections identify the materials and equipment available with a brief explanation of their function.

5.2.2.1 Landscape Materials

Appendix B contains a list of trees, plants/shrubs, grasses and lawns that are most suited for the climate and altitude in the PWDWD service area. The list does not contain all of the plants that grow in the area; only those that are water efficient with many of them being drought tolerant as well.

There are two fundamental types of mulches: organic and inorganic. Inorganic mulches include rocks, gravels of varying sizes, boulders, decomposed granite, brick, and other types of stepping stones. Organic mulches are comprised of grass clippings, leaves, wood chips, bark, and pine needles. Inorganic mulches are mostly decorative and they help conserve water by acting as a substitute for water consuming plants and lawn. Organic mulches conserve water by retaining moisture and protecting the soil from the heat of the sun.

Compost is also a material that helps conserve water. Compost consists of a bacterial source (manure, biosolids, etc.) and organic materials (wood chips, straw, leaves, etc.). In the process of making compost the bacteria consumes the organic material and the material degrades. Compost is valuable in two respects. First, it helps the soil to retain moisture and second, it contains bacteria that are beneficial to plants making them healthier and more water efficient. Prior to installing plants or lawn it is a useful conservation practice to turn some compost into the soil.

5.2.2.2 Irrigation Equipment

Irrigation equipment consists of a delivery system with pipes, valves, and spray heads, and a control system made up of wires, a timer, and a variety of probes and sensors. The following gives a brief description of these devices and how to maximize their water conserving performance.

Valves can be adjusted to produce a volume that is compatible with the water use need. Valves come in different sizes as well and should be sized according to their application. It is important that valves be checked periodically for leaks to avoid water loss.

Sprinkler Heads/Nozzles come in many different configurations and currently available nozzles produce a wide range of spray patterns, flows, and trajectories. Sprinkler heads should be selected and placed in a way that will maximize their performance. The spray trajectory should be compatible with the slope of the ground it is irrigating in order to reduce evaporation. For example a head located at the top of a slope would require a 0° trajectory whereas a head at the bottom of a slope would require a trajectory to match the angle of the slope. It is also important that the spray pattern matches the area to be irrigated. Heads can also be adjusted to apply the proper volume in order to avoid overshoot. See table 5.5 for examples of nozzle performance.

FIGURE 5.5**Example Spray Patterns****15° Trajectory†**

Nozzle	Pressure (psi)	Radius (ft.)	Flow (GPM)	Precip (In/h) ■	Precip (In/h) ▲
360° Arc 	15	9	1.8	2.14	2.47
	20	10	2.1	2.02	2.34
	25	11	2.4	1.91	2.21
	30	12	2.6	1.74	2.01
270° Arc 	15	9	1.35	2.14	2.47
	20	10	1.58	2.02	2.34
	25	11	1.8	1.91	2.21
	30	12	1.95	1.74	2.01
180° Arc 	15	9	0.9	2.14	2.47
	20	10	1.05	2.02	2.34
	25	11	1.2	1.91	2.21
	30	12	1.3	1.74	2.01
90° Arc 	15	9	0.45	2.14	2.47
	20	10	0.53	2.02	2.34
	25	11	0.6	1.91	2.21
	30	12	0.65	1.74	2.01

■ Square spacing based on 50% diameter of throw.

▲ Triangular spacing based on 50% diameter of throw.

† Trajectories can also be 0°, 5°, 10°, and 23°. Performance of head will vary with trajectory angle.

Irrigation controllers can be an effective conservation measure provided they are programmed correctly. For an automatic controller to be effective the water needs of the landscape must be determined first. The frequency and duration of watering will vary depending upon the plant type, soil type, weather, and location in the landscape. Automatic controllers come with different options that allow for custom watering schedules for each hydrozone in the landscape. The following is a list of features to consider when purchasing controllers:

- Number of stations needed
- Number of programs needed
- Number of starts per program
- Water budgeting (allows for seasonal adjustments)
- Rain delays
- Terminals for sensors

Controllers can also operate using information provided by sensors. Sensors that measure soil moisture content or rain allow for irrigation only when it's needed.

Additionally, golf courses may use weather stations that supply environmental information (temperature, wind, humidity, etc.) to adjust irrigation.

Drip Irrigation is used to water plants and trees according to specific need. Drip systems are made up of a main flexible hose line and a number of different emitters or spray heads that distribute the water. Drip system emitters vary according to gallons applied per hour which allows for customization of application from plant to plant. The emitters can be placed next to the plant where the water is needed and eliminate overspray. Since the water is applied directly on the plant, there is less water for competing weeds. Drip systems also require little pressure and are easy to assemble. It is important however to install a pressure reducer and filter for the drip system to function properly.

5.2.3 Landscape Measures Applications

All of these landscape measures can be used in residential and Industrial, Commercial and Institutional (ICI) applications.

5.3 INDUSTRIAL, COMMERCIAL AND INSTITUTIONAL (ICI) CONSERVATION MEASURES

5.3.1 Definitions

Industrial water users are those who are involved in manufacturing or processing. Commercial users are providers of a retail product or service. Institutional users include governmental entities, hospitals, schools, universities, and any other organization that serves the public.

5.3.2 ICI Water Audits

Because ICI water audits can require a substantial amount of time (4 hours or more), it may be valuable to have a private engineering firm, hired by the water user, conduct the audit. There is incentive for ICI users to pay for audits since the results of an audit could translate into substantial savings. An ICI water audit should include the following elements:

- Support from ICI owners, managers, and employees
- Survey/Estimation of facility use based on meter records.
- Calculation of water-related costs.
- Evaluation of efficiency measures.
- Evaluation of payback periods for measures.
- Efficiency recommendations and implementation.
- Tracking and reporting system.

A sample ICI water audit worksheet is provided in Appendix G.

5.3.3 Manual Washing

Generally, manual washing is cleaning done on surfaces or equipment with hoses and cloths.

5.3.3.1 Behavioral Manual Washing Measures

- Surfaces should be swept or brushed off before using water to clean.

5.3.3.2 Hardware/Equipment Manual Washing Measures

- High pressure, low-volume hoses with automatic shut-off nozzles.
- Portable, high-pressure pumps.
- Steam cleaners.

5.3.4 Vehicle Washing

Vehicle washing includes manual washing and automated car washes or a combination of both.

5.3.4.1 Behavioral Vehicle Washing Measures

- Limit number of spray nozzles and set flow rates at lowest volume and pressure required.
- Adjust nozzles in automated systems so that they take full advantage of gravity and position. Make sure water shuts off after vehicles have passed.
- Increase conveyor speeds to reduce rinse cycle time.
- Sweep wash area before using water to clean.
- Establish a regular maintenance schedule that includes checking for leaks and making repairs.

5.3.4.2 Hardware/Equipment Vehicle Washing Measures

- Recycling systems. These would include filters and storage tanks.
- High pressure pumping systems.

5.3.5 Kitchens and Restaurants

This section includes measures for food and drink preparation, dishwashers, and icemakers.

5.3.5.1 Behavioral Food and Drink Preparation Measures

- Presoak and wash food service articles in basins instead of running water.
- Reduce thawing of food with hot water unless required by law. If required use lower flow.
- Avoid running water to melt ice in sinks.
- Use full loads in dishwashers and other automated equipment.
- Serve water only when requested by customers (see Figure 6.3 for an example of a table sign for customers).

5.3.5.2 Hardware/Equipment Food and Drink Preparation Measures

- Low-volume faucets.
- Hands-free foot pedal valves for faucets.
- On demand hot water dispensers.

5.3.5.3 Behavioral Dishwasher Measures

- Presoak utensils, dishes, and pots and pans in basins of water instead of using running water prior to loading dishwashing machines.
- Scrape food off of plates rather than use running water.
- Operate scraping troughs only while dishes are actually being washed.
- Assess the water efficiency of the current dishwashing system to determine where improvements might be made.
- Always wash full loads in automated machines.
- Operate conveyor type dishwashers only when dishes are actually passing through the machine.
- Verify that the dishwashing equipment is using the minimum amount of flow recommended by the manufacturer.
- Since many older automated dishwashing systems are neither energy nor water efficient, evaluate the cost of retrofitting or replacing existing equipment.
- Turn dishwashers off when not in use.
- Routinely check all dishwashing equipment to ensure there are no leaks.

- Post signs requesting that personnel minimize their use of utensils, dishes, and pots and pans to save water.

5.3.5.4 Hardware/Equipment Dishwasher Measures

- Manual pre-wash sprayers with "dead man" shut-off controls.
- Low flow spray heads on all sprayers.
- New water efficient dishwashing equipment.
- Electronic eye sensors that shut off conveyer type systems when dishes are not passing through the machine.

5.3.5.5 Behavioral Garbage Disposer and Scraping Trough Measures

- Eliminate disposers and troughs.
- Use the minimum acceptable flow rate on all machines.
- Reuse wastewater in the mixing chamber of the disposer.

5.3.5.6 Hardware/Equipment Garbage Disposer and Scraping Trough Measures

- Garbage strainers (instead of disposers).
- Sensors that detect the amount of flow in a disposer and regulate flow accordingly.
- Solenoid valves that turn water off when the disposer is off.
- Flow regulators for disposer supply lines.

5.3.4.7 Behavioral Ice maker Measures

- Use the minimum flow rate recommended by the manufacturer on water cooled icemakers.
- Adjust machines to produce ice only when it's needed.
- Collect spent cooling water and reuse it for non-potable purposes.

5.3.4.8 Hardware/Equipment Ice maker Measures

- Air-cooled icemakers.
- Re-circulating systems for water-cooled icemakers.
- Ice flake machines that use less bleed off than cube machines.

5.3.6 Laundries and Laundromats

This section includes measures that are applicable in hotels, motels, hospitals, nursing homes, diaper services, restaurants, and coin operated laundromats.

5.3.6.1 Behavioral Laundry and Laundromat Measures

- Operate equipment with full loads only.
- Reduce water levels for partial loads.
- Back flush filters or softeners only when necessary.

5.3.6.2 Hardware/Equipment Laundry and Laundromat Measures

- Computer controlled rinse water reclamation systems.
- Wash and rinse water treatment and reclamation systems.
- Continuous batch washers.
- Ozone laundry systems.

- Horizontal axis washers.

5.3.7 Swimming Pools

The measures in this section can be applied to ICI and residential swimming pools.

5.3.7.1 Behavioral Swimming Pool Measures

- Limit the frequency of pool refilling.
- Cover the pool with an insulated cover when not in use to reduce water losses due to heat and evaporation.
- Reduce the level of the pool to avoid water losses due to splashing.
- Lower the pool temperature.
- Backwash filters only when necessary. If backwash is timed, verify that frequency is efficient.
- Regularly check pool for leaks and cracks.
- Keep pool and filter clean to avoid unnecessary backwashing.

5.3.8 Cooling Systems

This section includes conservation measures for 3 types of cooling systems: (1) Single-pass cooling, (2) Evaporative cooling, and (3) Equipment cooling. Single-pass cooling uses fresh water to cool without re-circulating any of the water used in the first pass. Evaporative coolers are used for cooling in commercial and residential applications and are commonly known as swamp coolers. Equipment cooling includes both single-pass and re-circulating systems that are used to cool equipment and machinery.

5.3.8.1 Behavioral Single-pass Cooling Measures

- Reuse water for landscaping, vehicle washing, or another cooling application that allows for water to be at a higher temperature.
- Eliminate single-pass systems.

5.3.8.2 Hardware/Equipment Single-pass Cooling Measures

- Air-cooled equipment (i.e. compressors, pumps, icemakers, etc...).
- Automatic controls that insure coolers only operate when needed.
- Replace all single-pass systems with closed-loop systems.

5.3.8.3 Behavioral Evaporative Cooling Measures

- Regularly check for leaks in hoses and pan.
- Replace pads at least annually.
- Shut cooler off when building is unoccupied.
- Annually check for worn parts and replace those that need it.
- Annually service the equipment by oiling moving parts and cleaning off accumulated scale or corrosion.

5.3.8.4 Behavioral Equipment Cooling Measures

- Reuse water in single pass systems for other cooling purposes. Examples of reuse might include cooling molten materials, landscape, or boiler make-up water.
- Replace all single pass cooling systems with closed-loop systems or replace water-cooled equipment with air-cooled.

5.3.9 Heating Systems

This section deals with conservation measures for boilers and steam generators which are used to heat large buildings and multiple-building facilities.

5.3.9.1 Behavioral Heating Systems Measures

- Regularly inspect systems for leaks and make repairs.
- Insulate all piping.
- Limit boiler bleed-off to a level that satisfies water quality requirements.
- Discharge blow-down into an expansion tank instead of using cold water to cool it.

5.3.9.2 Hardware/Equipment Heating Systems Measures

- Flow meters for make-up and blow-down valves.
- Automatic controls to discharge blow-down.

5.3.10 Leaks and Water Losses

This section covers water conservation measures relating to leaks and losses. Appendix I has instructions on how to read residential water meters and how to use them to detect leaks. The same principles can be used for ICI applications.

5.3.10.1 Behavioral Leaks and Losses Measures

- Regularly check for leaks at all water connections. Keep in mind that higher pressure applications have more incidence of leakage.
- Regularly check all vessels that contain water for cracks or bad seals.
- Regularly check all heating and cooling systems.
- Repair any leaks that are discovered.

5.3.10.2 Hardware/Equipment Leaks and Losses Measures

- Leak detection equipment. This could include sonic or probe type equipment.
- Any equipment used to stop a leak. This would depend on the material of the pipe or vessel that has a leak.

5.3.11 ICI Maintenance Practices

This section reemphasizes maintenance conservation measures for ICI facilities that have been mentioned in previous sections. These measures should become standard procedure at all ICI facilities.

5.3.11.1 Behavioral ICI Maintenance Measures

- Create a maintenance schedule that includes schedules for leak detection inspections and meter reading, and repair procedures.
- Monitor water-use records keeping track of any increases or decreases in use.
- Conduct water audits every one to three years.
- Shut off supply lines to areas that are not being used.
- Install pressure reducers where feasible.
- Keep a maintenance schedule to clean cooling and heating equipment regularly.
- Recycle and reuse water when feasible.
- Insulate all hot water pipes.
- Replace old equipment with water saving equipment.

- Install timers wherever possible.
- Educate employees on water saving techniques.

Depending on conservation measures taken and the intensity to which these measures are taken, there is a potential for each commercial, industrial and institutional facility to save hundreds or even thousands of gallons of water every month.

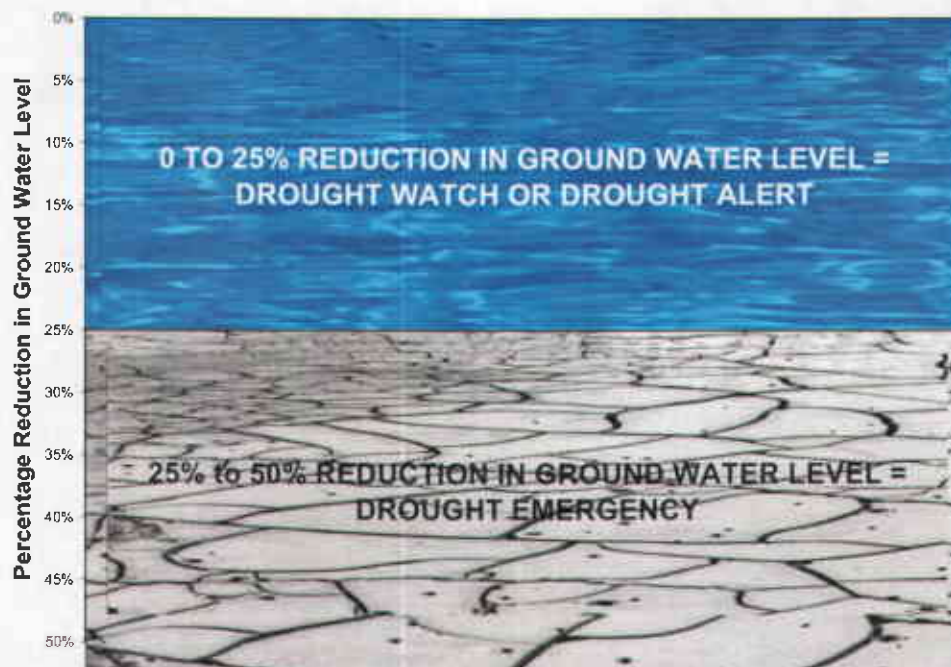
5.4 DROUGHT CONSERVATION MEASURES

All water supplied by PWDWD comes from groundwater sources. Because of this it is difficult to determine the effect of a drought year on the groundwater system and the consequences of a drought may not be detected in the water table until several years after the drought. For this reason it is important that PWDWD monitor precipitation, surface water levels, and water table levels over the long term. An annual review of water supplies should be done to determine the availability of water for the current year and the following year. This analysis should be done in the spring before the high use season.

In order to determine when it is necessary to impose special drought conservation measures, parameters or limits must be established for groundwater levels and groundwater levels should relate to measures. For instance, if groundwater drops to a certain level, a corresponding stage of drought measures are then required. Figure 5.6 is an example of this approach. PWDWD will determine how groundwater levels relate to the different stages of drought.

FIGURE 5.6

PWDWD Drought Response Parameters



Source: Lyon County Water Conservation Plan

This plan uses a drought assessment system similar to the one used by the Southern Nevada Water Authority (SNWA) that includes the following levels of drought observation:

- No Drought
- Drought Watch
- Drought Alert

- Drought Emergency

There are specific measures associated with each stage of drought that apply to water customers and PWDWD. Table 5.5 summarizes PWDWD responsibilities.

TABLE 5.5

PWDWD Drought Conservation Measures

Stage	Reduction Goal	Information Measures	PWDWD Measures
No Drought	10%	Encourage conservation through educational efforts	Institute intensive leak reduction program, Reduce % of unaccounted for water. Increase enforcement.
Drought Watch	15-18%	Use media to communicate drought information, warn of potential for more stringent measures associated with succeeding stages. 1 st stage measures.	Reduce water use for flushing, public fountains, and public facility landscape irrigation. 1 st stage measures.
Drought Alert	25-30%	Public officials appeal for water use reductions. Explain details of emergency. 1 st and 2 nd stage measures.	Prohibit all public water uses not required for health or safety. 1 st and 2 nd stage measures.
Drought Emergency	50% or more	1 st , 2 nd , and 3 rd stage measures.	Prohibit all outdoor water use and selected commercial/industrial use. 1 st , 2 nd , and 3 rd stage measures.

Source: Lyon County Water Conservation Plan

Drought conservation measures implemented by customers can save more water than those measures applied by PWDWD (Table 5.5). For this reason water customers must also be expected to employ special conservation measures during times of drought. Special drought conservation measures for water users have been divided into the following categories:

1. Fountains and Water Features
2. Golf Courses
3. Government Facilities
4. Landscape Irrigation
5. Mist Systems
6. Parks and Community Use Areas
7. Pools
8. Surface, Equipment, and Building Washing
9. Turf Installation
10. Vehicle Washing

5.4.1 **Fountains and Water Features**

Drought measures are summarized in table 5.6.

TABLE 5.6**Drought Measures for Fountains and Features**

Stage	Residential	Common Areas	Commercial
Watch	Fountains and features with a surface area of 200 ft ² or less allowed.	Same as residential but feature cannot be incorporated into an entry way of streetscape, as defined by local government and only one fountain or water feature may be operated.	May maintain a re-circulating water pool to sustain pumps, pond liners, surface coatings and ancillary equipment. The feature of fountain may run only between 1 a.m. and 4 a.m. or whenever freezing conditions require system preservation.
Alert	Fountains and features with a surface area of 25 ft ² or less allowed.	Same as Watch	Same as Watch
Emergency	Fountains and features not allowed.	Fountains and features not allowed.	Fountains and features not allowed.

Source: Lyon County Water Conservation Plan

5.4.2 Golf Courses

Drought measures are summarized in table 5.7.

TABLE 5.7**Drought Measures for Golf Courses**

Stage	Golf Courses
Watch	To be determined by PWDWD after golf course needs have been established.
Alert	
Emergency	

Source: Lyon County Water Conservation Plan

5.4.3 Government Facilities

Drought measures are summarized in table 5.8.

TABLE 5.8**Drought Measures for Government Facilities**

Stage	Government Facilities
Watch	To be determined by PWDWD after government facility needs have been established.
Alert	
Emergency	

Source: Lyon County Water Conservation Plan

5.4.4 Landscape Watering

Drought measures are summarized in table 5.9.

TABLE 5.9**Drought Measures for Landscape Watering**

Stage	Winter (Oct – Mar)	Spring, Summer, Fall (Apr – Sept)
Watch	No Watering	2 assigned days per week
Alert	No Watering	2 assigned days per week
Emergency	No Watering	To be determined

Source: Lyon County Water Conservation Plan

5.4.5 Mist Systems

Drought measures are summarized in table 5.10.

TABLE 5.10**Drought Measures for Misting Systems**

Stage	Residential	Commercial
Watch	Allowed, No restrictions	Use only for human comfort in June, July, and August and only between the hours of noon and 6 p.m.
Alert	Allowed, No restrictions	Use only for human comfort in June, July, and August and only between the hours of noon and 6 p.m.
Emergency	Not allowed	Not allowed

Source: Lyon County Water Conservation Plan

5.4.6 Parks and Community Use Areas

Drought measures are summarized in table 5.11.

TABLE 5.11**Drought Measures for Parks and Community Use Areas**

Stage	Parks and Community Use Areas
Watch	To be determined by PWDWD after parks needs have been established.
Alert	
Emergency	

Source: Lyon County Water Conservation Plan

5.4.7 Swimming Pools

Drought measures are summarized in table 5.12.

TABLE 5.12**Drought Measures for Swimming Pools**

Stage	Swimming Pools
Watch	No restrictions.
Alert	
Emergency	Not to be filled during drought emergency

Source: Lyon County Water Conservation Plan

5.4.8 Surface Equipment and Building Washing

Drought measures are summarized in table 5.13.

TABLE 5.13

Drought Measures for Surface Equipment and Building Washing

Stage	Surface Equipment and Building Washing
Watch	Prohibited.
Alert	
Emergency	

Source: Lyon County Water Conservation Plan

5.4.9 Vehicle Washing

Drought measures are summarized in table 5.14.

TABLE 5.14

Drought Measures for Vehicle Washing

Stage	Personal Vehicle Washing	Commercial Vehicle Washing
Watch	Once a week per vehicle using a hose with an automatic shut-off nozzle.	Only at a facility where water is discharged into the sanitary sewer through approve methods. Also with high-pressure, low-volume sprayer using less than 10 gallons per vehicle.
Alert		
Emergency	Not allowed	Not allowed

Source: Lyon County Water Conservation Plan

5.4.10 Turf Installation

Drought measures are summarized in table 5.15.

TABLE 5.15

Drought Measures for New Turf Installation

Stage	Residential Single and Multi-family	Non-Residential
Watch	Allowed	Allowed within limits of Landscape Code.
Alert	Allowed	Allowed within limits of Landscape Code.
Emergency	Not allowed	Not allowed

Source: Lyon County Water Conservation Plan

5.4.11 General Water User Measures

Drought measures are summarized in table 5.16.

TABLE 5.16

General Drought Measures

Stage	General Water User Measures
Watch	Mandatory restrictions on all outside uses by residential users, except landscape irrigation. Unnecessary outdoor uses by any commercial users prohibited.
Alert	All outdoor water use severely restricted. Serve water in restaurants only upon request.
Emergency	All outdoor water use and selected commercial and industrial use prohibited.

Source: Lyon County Water Conservation Plan

5.5 EMERGENCY CONSERVATION MEASURES

5.5.1 Definition

Currently PWDWD has a sufficient water supply to meet the needs of its service area. However, because of rapid growth and the associated demand, distribution has become a challenge. For this reason it may be necessary from time to time to apply emergency level drought conservation measures for reasons other than drought. To determine when to declare a water emergency, PWDWD could apply a factor to current average demand to establish a minimum acceptable production capacity. For example if average current demand is 2000 acre-feet per year and a factor of 1.5 is applied to that amount, the minimum acceptable production capacity would be $1.5 \times 2000 = 3000$ acre-feet. PWDWD will need to monitor system capacity to determine at what point an emergency should be declared. Conditions other than rapid growth that might require a declaration of emergency include major water line breaks, pump or system failures, or contamination of water supply sources. Regardless of the reason, the goal of emergency measures would be to restrict water usage to allow the water system to recover from the emergency condition. The following sections discuss additional measures that may be implemented during an emergency.

5.5.2 PWDWD Operational Measures

The following are operation measures that should be implemented for a water emergency:

- Continue all actions from watch and alert stages (drought conservation measures), as appropriate.
- All emergency measures should be applied with any additional measures that PWDWD considers to be necessary.
- The problem should be defined as an emergency by PWDWD.
- Water use reduction goals should be established by PWDWD. Single-family residences may be set as a per house allotment or as a percentage from previous years consumption. Commercial, multi-family, and industrial should be asked to reduce use by a percentage of the average of the previous year's consumption.
- Penalties or excess use charges should be established for customers that exceed their allotment.
- PWDWD billing system could be adjusted to implement penalty or use charges.
- Enforcement actions should be increased (see section 6.3.5).
- Train personnel and make additional Water Watcher patrols.
- Inform local law enforcement of the need for assistance.
- Increase aquifer level monitoring actions.

5.5.3 Communication Measures

The following are the communication measures that should be implemented for a water emergency:

- PWDWD will increase the frequency of reports to the City Council. The initial report will include the suggested nature and scope of proposed conservation measures. Subsequent reports should provide details on measure implementation and customer response to those measures.

- Provide status reports to entities with special interests, public agencies including the school districts, fire departments, and law enforcement agencies.
- Through a media campaign and direct mail announce to PWDWD customers the:
 - Scope and nature of the measures.
 - Reasons for imposing the measures.
 - Water use reduction goals.
 - Enforcement mechanisms and fines.
 - Projections for how long the measures will be in place.
 - Penalty or excess use charges.
- Clearly identify any exemptions from the conservation measures.
- Inform customers about possible pressure reductions and any problems this may cause.
- Provide landscape firms with conservation measure information.
- Provide contractors and landscape firm's information on locations to obtain reclaimed water (effluent) for street cleaning, construction projects, irrigation, dust control, etc.
- Post updated status reports on the City of Fernley website and hotlines.
- Post signs where possible that note major conservation measures.
- Keep fire departments informed on the status of the emergency and require that they discontinue the use of water in training exercises until the emergency is over.

5.5.4 Emergency Conservation Summary

Advance preparation is necessary for the successful implementation of emergency conservation measures. Public education prior to an emergency is essential. It is also important that communication systems (hotlines, websites, etc.) have been set-up in advance. Enforcement procedures including personnel assignments should also be outlined ahead of time.

END OF SECTION

6 CONSERVATION INCENTIVES

A conservation incentive is something that increases awareness about the value of reducing water use. Incentives can help motivate water users to implement water conservation measures. Conservation incentives can be divided into 3 categories: Educational, Financial, and Regulatory. This chapter discusses each of these categories and provides examples of incentives.

6.1 EDUCATIONAL INCENTIVES

6.1.1 Literature

Examples of conservation literature include water saving guides, direct mailers, or possibly even redesigned bills that include historical use information.

The following figures are the literature which is used currently used by PWDWD.

FIGURE 6.1a

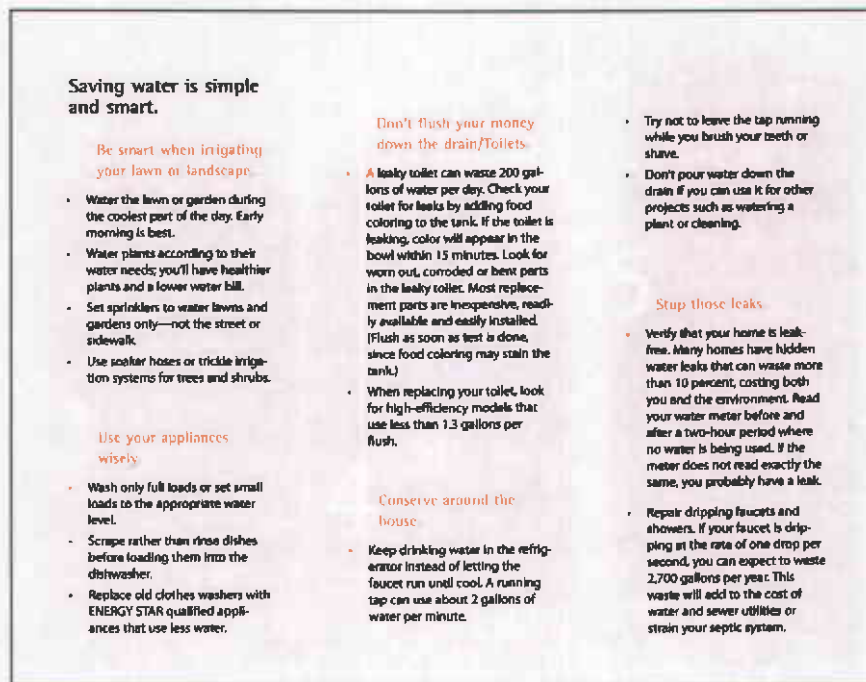
PWDWD Saving Water Guide provided by USEPA



Source: United States Environmental Protection Agency

FIGURE 6.1b

PWDWD Saving Water Guide provided by USEPA

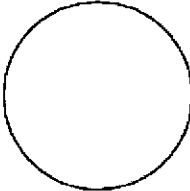



Source: United States Environmental Protection Agency

As can be seen in figures 6.1a/b, the brochure displays simple tips, suggestions and instructions for indoor and outdoor water conservation. These brochures are available at the Public Works Department in the City of Fernley City Hall.

FIGURE 6.2

PWDWD Water Waste Notification

Fernley City Code 1.28.020 Water waste:
Customers are required to abide by the Rules and Regulations of the Water Division. No customer shall knowingly permit leaks, excessive use, or waste of water.

Our Serviceman have detected the following at _____ (address); your immediate attention is required. Failure to comply within 7 days may result in fee charges or possible legal actions which may include termination of water services.

☐ Run off water (excessive water in gutters and sidewalks)
☐ Broken Sprinkler pipes
☐ Broken Sprinkler Heads
☐ Leak Detected
☐ Other _____

Lets work together to conserve for Fernley's future.
Should you have any questions please call the Public Works Department at 784-9910.

Notification of this Water Waste Circumstance has been turned in to the Public Works Department for filing.

Figure 6.2 is a door knob flyer used by PWDWD that informs home owners that they have been observed wasting water and that the incident is on record at the City of Fernley Public Works Department.

Larger utilities have programs that include regular patrols by "Water Watcher" or "Water Cop" personnel who distribute warnings similar to figure 6.2. These personnel also may take pictures or videotape occurrences of waste which they then make available to the responsible party. Water Watcher personnel distribute educational materials as well, such as conservation literature or conservation kits which may contain water saving devices.

Another conservation education resource are landscape guides that contain detailed how-to information. These landscape guides may give advice on landscape design including plant layout, how to properly install an automated irrigation system, and which plants are best suited for the specific region. Lawn care guides that include the utilities summer watering schedule can be helpful. Refrigerator magnets that have the watering schedule are also a possibility.

Table signs can be used in restaurants to inform patrons that if they want water they must request it. Figure 6.3 is an example of such a sign.

FIGURE 6.3

Table Tent for use in restaurants



Source: Truckee Meadows Water Authority

Internet websites are also a good way to distribute water conservation information and can be less expensive than published materials. Many existing websites contain instructional information on the following subjects:

- Xeriscaping
- Irrigation
- Rebates
- Watering Schedules
- Water Rates
- Lawn Care
- Water Saving Appliances
- Meter Reading Instructions
- Leak Detection Tips
- Water Conservation Tips
- Water Audit Forms
- Water Waste Report Forms
- Water Use Exemptions
- Water Conservation Plan

Currently, the City of Fernley website, www.cityoffernley.org, has multiple links to various entities which promote water conservation. Appendix C contains a list of websites that contain water conservation information.

Unless otherwise indicated, the educational literature included in this conservation plan is not currently being used by PWDWD and is for reference purposes only. The literature described within this plan is intended to be a resource for ideas that can be implemented if more conservation incentives become necessary and if the PWDWD budget can support such incentives.

6.1.2 Conservation Workshops

Conservation workshops can be conducted by utilities to promote water conservation. Workshop subject matter can include but is not limited to all items described in the previous section. PWDWD currently does not conduct water conservation workshops or training.

6.1.3 School Curriculums

Utilities can also sponsor special visits to schools where students can be instructed by members of water related industries or government entities. PWDWD currently does not have a school visiting program in place.

6.2 FINANCIAL INCENTIVES

6.2.1 Rebates

To help conserve water a utility may chose to offer rebates. These rebates can apply to devices or to measures that help conserve water inside and outside of a residence or business. Rebates can be offered for the following measures:

- Xeriscaping
- Water Saving Appliances
- Irrigation Clocks
- ANYTHING THE UTILITY DECIDES TO REBATE

Appliance rebates can be distributed in the form of a credit to offset a customer's water bill. In order to determine who is eligible for a rebate, a list of requirements needs to be established by the utility. In the case of appliance rebates, a list of pre-qualified appliances should be made available to the rebate applicants (see Appendix D for a possible list). Utilities may also require that the appliance be installed by a plumber or by the manufacturer's representative. A rebate application form that includes all of the requirements, rebate amount and rebate offer expiration date is also important. Sample rebate applications can be found in Appendix E.

Xeriscape rebates could require that the landscape being removed is designated as high water use. A qualified landscape should have a certain percentage of plants from an approved plant list. Spray irrigation should not be allowed and drip, soaker hose, or bubblers used in its place. Mulching amounts and types should also be included. Rebates can be made available to single family residences as well as apartment and commercial entities.

6.2.2 Rates

6.2.2.1 Rate Structure

The City of Fernley on July 1, 2007 revised its water rate structure to accommodate the Federal Mandate for maximum arsenic water levels in a public water system. The PWDWD is currently accomplishing this by building a Water Treatment Plant and the conveyance/distribution infrastructure required to supply the clean drinking water to its customers. After the revision of the City's water rate structure, PWDWD experienced a drop in consumption, as described in Section 3.2 of this conservation plan. PWDWD currently uses a tiered rate structure and is dependent on user type. These rates can

be seen in Section 2.1.6 of this Water Conservation Plan. The City is making efforts to revisit the user rates on an annual basis to ensure the City is not unreasonably over or under-earning.

6.3 REGULATORY INCENTIVES

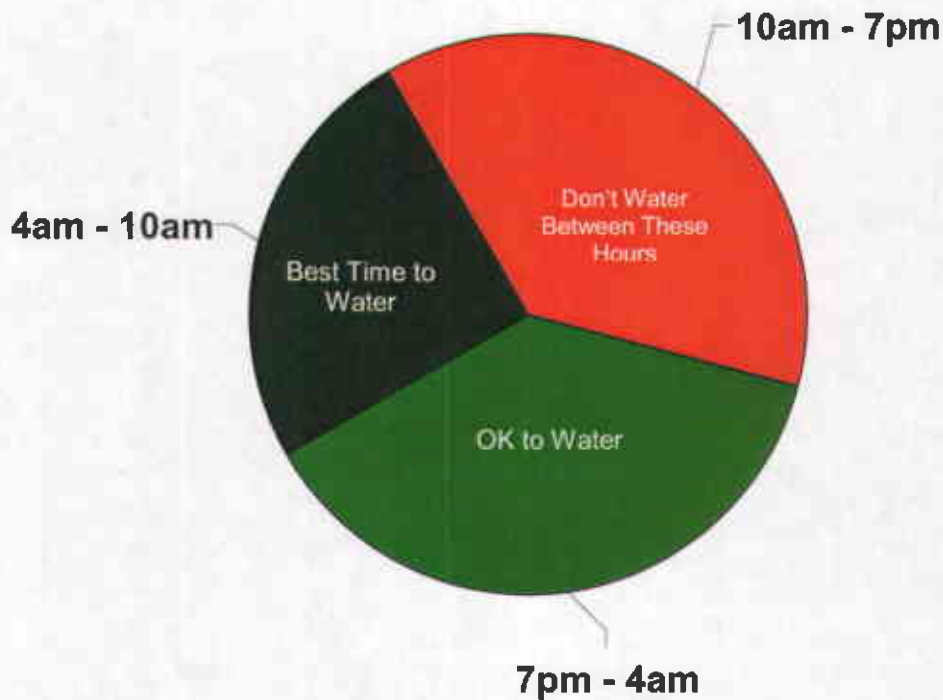
Regulatory incentives include but are not limited to conservation policies and ordinances, laws and plumbing codes, and irrigation schedules. It is important to have a means of enforcing regulatory incentives or they will not be as effective. For this reason enforcement information is included in this section.

6.3.1 Watering Schedules

Currently PWDWD allows all users to water any time of the day, every day of the week, but is working towards implementing an odd/even watering schedule which will be in effect from May through September. This 2-day-per-week schedule requires each residential parcel having an even address number to water on Wednesdays and Saturdays; each parcel having an odd address number to water on Thursdays and Sundays; and each commercial/industrial facilities to water on Tuesdays and Fridays. Monday of each week becomes a rest day for the public water system. This rest day allows the water storage tanks to fill back up and it allows the groundwater aquifers to recover. During any of the watering days, watering will be restricted to 7:00pm-10:00am. For this schedule to be effective it should be part of the water ordinance, which should include provisions for enforcement. It is estimated that a reduction of 332.1 gallons of water per day per customer can be achieved in a two (2) day-per-week watering schedule as described in Section 3.6 of this conservation plan.

FIGURE 6.4

Ideal Watering Times in PWDWD Service Area



Source: Lyon County Water Conservation Plan

6.3.2 Landscape Standards

PWDWD estimates that as much as 78% of summer water consumption is used on landscape. Additionally, the efficiency of typical landscape-irrigation techniques has been estimated to be between 50 and 80 percent. This being the case, landscape standards are an essential part of this plan. PWDWD will be drafting a Landscape Code that will provide guidelines for both residential and commercial/industrial landscape applications. The Landscape Code contains all the critical elements for the installation of a water efficient landscape. The following is a summary of the key landscape code provisions.

6.3.2.1 Landscape Size

The size of landscapes for all multi-family residential, industrial, commercial, institutional and public developments is defined within the City of Fernley Development Code, Section 40.020. These developments are typically conditioned to build and maintain a minimum of landscaped area equal to 15% of the sites overall parking and driveway areas. Multi-family residential developments are also typically conditioned with planting lawn for a minimum of 50% of the sites overall parking area, as defined within the Section 40.030 of the City of Fernley Development Code.

6.3.2.2 Landscape Materials

Minimum sizes and quantities of trees and shrubs are defined within Sections 40.020 and 40.030 of the City of Fernley Development Code. Trees not to be planted are identified. A list of trees that thrive in arid climates is also included in Appendix B of this plan.

The minimum and maximum areas allowed for turf installation are defined within Section 40.030 of the Development Code. In 2005, the City of Fernley conditioned all new developments to integrate a "purple pipe" or raw water system for every home/facility irrigation system. The maximum slope of the turf is also limited at 5 to 1 (approx. 20%). Ground cover types are specified as shrubs, turf, vines, meadow grass, and wild flowers, or any other living ground covers. Minimum amounts of unplanted, non-living materials are identified within Section 40.020 and 40.030 of the Development Code. These materials include wood chips, bark, decorative rock or other non-living materials.

6.3.2.3 Landscape Irrigation

Water conserving irrigation is encouraged in the PWDWD code. The following items are included in the regulations regarding irrigation:

- Use of drip irrigation where appropriate.
- Use of irrigation timers.
- Use of storm water harvesting systems.
- Water conserving sprinkler heads.
- Use of reduced pressure PVB's.
- Depth of water line (to avoid freezing)
- Schedule 40 PVC required.

6.3.3 Plumbing Codes and Ordinances

The City of Fernley currently operates with the 2003 edition of the Uniform Plumbing Code (UPC). Effective April 1, 2008, the City of Fernley will operate with the 2006 edition of the UPC.

Table 6.1 displays some of the maximum water-use requirements for fixtures under the federal EAct of 1992.

TABLE 6.1

Federal maximum water-use requirements for toilets, urinals, showerheads, and faucets*

Fixture	Maximum Water Allowed
Gravity-tank	1.6 gpf
Gravity-tank, white, two-piece	3.5 gpf
Labeled "Commercial Use Only"	1.6 gpf
Flushometer-tank	1.6 gpf
Flushometer-valve (except blowout-valve)	1.6 gpf
Blowout-valve	3.5 gpf
Electromechanical hydraulic	1.6 gpf
URINALS	
Any type	1.0 gpf
SHOWERHEADS	
Any type (except those used for safety reasons)	2.5 gpm (@ 80 psi) or 2.2 gpm (@ 60 psi)
FAUCETS AND REPLACEMENT AERATORS	
Lavatory faucets	
Lavatory replacement aerators	2.5 gpm (@ 80 psi) or 2.2 gpm (@ 60 psi)
Kitchen faucets	
Kitchen replacement aerators	

* Established by the U.S. Energy Policy Act (EAct). EAct allows certain exceptions to the standards shown, e.g., when they are not consistent with public health or safety. The actual language of the law should be consulted for full details about exception.

6.3.4 Penalties

The City of Fernley currently has provisions for water shortage and water waste within Sections 1.04.042 & 1.28.020 of Amended Ordinance #10. The PWDWD is currently drafting an additional Amendment to Amended Ordinance #10, which will provide further descriptions and depth to the water shortage & water waste provisions.

6.3.4.1 Declaration of Water Waste, Water Shortages & Water Use Restrictions

Water waste is defined in Section 1.28.020 of Amended Ordinance #10 as any excessive water usage which causes water to run into or along any street, alley, storm drainage system or into or upon another's property. This provision enables PWDWD to promote conservation efforts through enforcement & penalties if necessary.

6.3.4.2 Warnings/Notifications

Per the ordinance warnings in the form of citations will be issued for water waste. Citations will contain the following information:

- Location of violation.
- Date and Time of violation.
- Section of pertinent code.
- How and when the citation must be answered.
- Any other information prescribed by the utility.
- Signature of the person issuing the citation.

Citations may be served by any of the following methods:

- Directly to the water user.
- To a person of suitable age at the place where the waste is taking place.
- By registered mail.

- Posting of the citation at the premises where the waste is taking place.

6.3.4.3 Penalty Requirements

Civil Penalties The following fines structure may be implemented within the water ordinance:

First Violation:	Warning/Notification in form of citation.
Second Violation:	Tier #1 Penalty
Third Violation:	Tier #2 Penalty

All of the fines are paid through the City of Fernley Finance Department.

The PWDWD may discontinue service without notice within 20 days after the user is found by the PWDWD to have engaged in the waste of water and has failed to pay the applicable fine or has failed to comply with the ordinance. Service will be restored when the user complies with the requirements of the ordinance to the satisfaction of the PWDWD.

6.3.5 Enforcement

Without some means of enforcement, codes and ordinances do not have the power to be effective. This section discusses enforcement techniques and options that should be integrated with conservation policies and ordinances.

The first step in enforcing the water waste ordinance is for someone to observe the waste. This person can be anybody, PWDWD personnel or otherwise. In the event the waste is witnessed by someone other than PWDWD personnel, see the sample "Water Waste Report Form" in Appendix F.

The previous section discussed penalties but a procedure for distributing citations is also required for fines to be imposed. Because PWDWD water users are in fact customers, a tactful approach to enforcement is important for the utility to maintain a positive relationship with the community. Although water waste can occur from deliberate negligence, oftentimes it is unintentional and an aggressive approach to enforcement could cause more harm than good. For this reason utilities have adopted enforcement procedures that encourage water conservation through education. Citations still need to be issued, but in many instances can be avoided by informing those unaware of the waste that they are in violation.

Eventually all water utilities have need to hire full-time enforcement personnel whose sole purpose is to patrol and observe water waste. These "Water Watchers" are authorized to issue citations and have water service shut off if necessary. These utility employees should be trained in customer service and instructed to; (1) be courteous, (2) be helpful, (3) use proper language, and (4) have respect for customers property. Water patrol personnel should maintain a strict dress code and should wear name badges for proper identification. Training should include the following:

- Familiarity with maps and the service area.
- Dealing with neighbor disputes.
- Water ordinances and exemptions.
- Difference in customers (i.e. residential, commercial/industrial, common areas, institutional, etc...).
- Irrigation systems and emergency shut-off procedures.
- Familiarity with all the utilities educational materials (see section 6.1).

Water personnel may also be trained to perform residential and commercial/industrial water audits.

If the budget allows, special vehicles may be used that are painted so that they can be easily identified by the public. All enforcement vehicles should be stocked with educational materials (see section 6.1). Additional equipment may include cell phones, complaint forms, maps, violation notices, tools for emergency shut-off, and where possible laptop computers and video cameras. When funds allow video can be an excellent enforcement tool. The utility can film the water violation and provide an opportunity for the customer to view the waste incident at their convenience.

In the event the customer is not immediately available, notification that waste has been observed can be in the form of the door knob card in figure 6.2.

END OF SECTION

7 WATER CONSERVATION INITIATIVES AND RECOMMENDATIONS

This section discusses recommended conservation incentives and measures that will be considered for future implementation.

7.1 WATER CONSERVATION STAFFING MEASURES

7.1.1 Conservation Specialist/Supervisor

In order to implement future conservation incentives and measures, a member of the PWDWD staff will need to be selected to oversee conservation efforts. This person will be responsible for managing a conservation budget, organizing educational programs, overseeing PWDWD conservation efforts (leak detection, public awareness, water loss accountability, etc.), reviewing grant opportunities and supervision of PWDWD conservation personnel. This conservation specialist will review and update the conservation plan annually and will evaluate the effectiveness of existing conservation measures and incentives. This person will also be the head of a conservation committee and will be a source of conservation information and expertise for committee members.

7.1.2 Conservation Committee

A conservation committee can be selected from among the various departments within the City of Fernley by the City of Fernley upper management staff. A member of the City Council or Planning Commission may also be appointed to the committee. This committee is important because some conservation measures can have a broad affect on the utility as well as the community. For this reason new measures or incentives should be discussed in a forum of department representatives prior to implementation to be certain all contingencies have been considered.

7.1.3 Water Watchers

Some conservation measures require enforcement or "water watchers" to be effective. Laws that require mandatory adherence to conservation measures will only be successful when enforcement personnel are an integrated part of written codes and ordinances. Just the presence of water watchers can be a deterrent to water waste. The water watchers can help create and implement educational programs, distribute educational materials and conduct water audits. They can also help maintain a positive relationship between the community and PWDWD.

7.2 ECONOMIC AND FINANCIAL MEASURES

7.2.1 Rate Structure

Since July 1, 2007 the City of Fernley currently operates on a tiered rate structure, as can be seen in Section 2.1.6 of this Plan. Directly following the amended rate structure staff noticed a slight decrease in water usage from previous months. Tiered rate structures have been an effective and equitable conservation measure and are widely used throughout the State.

7.2.2 Penalty Fees

Currently the City of Fernley does not operate with penalty fees associated with excessive use charges. Many utilities currently include penalty fees as part of their customer's monthly bill. This approach helps to enforce water ordinances and is a cost effective way to administer payment of excessive use charges. As part of this change violation fees should be included as part of the fee schedule.

7.2.3 Effluent Rates

Presently the Public Works Department Waste Water Division (PWDWWD) is permitted to supply up to 1,523 acre-feet annually (or daily average of 1.36MDG) of secondary treated effluent for reuse irrigation water into the Fernley Wildlife Management Area (FWMA). There are a number of different alternatives available which would allow the treated effluent to be

utilized to directly offset treated water usage. The City is currently negotiating with various industrial users to explore industrial reuse of secondary treated effluent. Effluent rates should be instituted prior to any final agreements for treated effluent reuse in order to encourage responsible use of effluent. Establishing rates now could also help to offset the cost of new treatment and delivery systems.

7.2.2 Water Conservation Budget

A water conservation budget should be created to allow for the implementation of conservation measures and incentives. The conservation specialist described in section 7.1.1 would be responsible for the use of funds allocated for conservation programs and/or personnel. This budget could be used to purchase educational materials, pay for water audits, and increase conservation staff if necessary.

7.3 WATER ORDINANCES

7.3.1 Review and Revision of Current Water Ordinance

The water ordinance should be reviewed and revised to give PWDWD authority over conservation related decisions. Conservation is generally not emergency driven and should be an ongoing part of the water service provided by PWDWD.

This list of behavioral conservation measures and/or habits can be used to conserve water at the individual level. It is divided into four parts: Home, Landscaping, Community, and Miscellaneous. The conservation measures described in this section will not be imposed or enforced, but are rather to be used as a guide and/or reference for potential conservation methods, unless otherwise noted.

HOME BEHAVIORS

1. When washing dishes by hand, don't let the water run while rinsing. Fill one sink with wash water and the other with rinse water.
2. Evaporative coolers require a seasonal maintenance checkup. For more efficient cooling, check your evaporative cooler annually.
3. Run your washing machine and dishwasher only when they are full and 1,000 gallons per month could be saved.
4. Use the garbage disposal sparingly. Compost instead and save gallons every time.
5. Keep a pitcher of water in the refrigerator instead of running the tap for cold drinks, so that every drop goes down you and not the drain.
6. Check your water meter and bill to track your water usage.
7. Wash your produce in the sink or a pan that is partially filled with water instead of running water from the tap.
8. Use a broom instead of a hose to clean your driveway or sidewalk and save 80 gallons of water every time.
9. If your shower can fill a one-gallon bucket in less than 20 seconds, then replace it with a water efficient showerhead.
10. Collect the water you use for rinsing produce and reuse it to water houseplants.
11. We're more likely to notice leaky faucets indoors, but don't forget to check outdoor faucets, pipes, and hoses for leaks.
12. When you shop for a new appliance, consider one offering cycle and load size adjustments. They are more water and energy-efficient than older appliances.
13. Time your shower to keep it under 5 minutes, and save up to 1,000 gallons per month.
14. Install low-volume toilets.
15. When you clean your fish tank, use the water you've drained on your plants. The water is rich in nitrogen and phosphorus, providing you with a free and effective fertilizer.
16. Put food coloring in your toilet tank. If it seeps into the toilet bowl, you have a leak. It is easy to fix, and save more 600 gallons per month.
17. Designate one glass for your drinking water each day. This will cut down on the number of times you run your dishwasher.
18. Don't use running water to thaw food.

19. Grab a wrench and fix that leaky faucet.
20. When doing laundry, match the water level to the size of the load.
21. Teach your children to turn the faucets off tightly after each use.
22. Before you lather up, install a low-flow showerhead. They are inexpensive and can save more than 500 gallons per week.
23. Soak your pots and pans instead of letting the water run while you scrape them clean.
24. Make sure you know where your master water shut-off valve is located. This could save many gallons of water and potential damage to your home if a pipe were to burst.
25. Turn off the water while you brush your teeth and save up to 200 gallons a week for a family of four.
26. Make sure your toilet flapper doesn't stick open after flushing.
27. Make sure there are aerators on all of your faucets.
28. Install an instant water heater on your kitchen sink so you don't have to let the water run while it heats up.
29. Cut back on rinsing if your dishwasher is new. Newer models clean more thoroughly than older ones.
30. Bathe your young children together.
31. Winterize outdoor spigots when temps dip to 20 degrees F to prevent pipes from bursting or freezing.
32. Insulate hot water pipes so you don't have to run as much water to get hot water to the faucet.
33. Drop that tissue in the trash instead of flushing it.
34. If your toilet was installed prior to 1980, place a toilet dam or bottle filled with water in your toilet tank to cut down on the amount of water used for each flush. Be sure these devices do not interfere with operating parts.
35. Install water softening systems only when necessary. Save water and salt by running the minimum number of regenerations necessary to maintain water softness.
36. Wash clothes only when you have a full load and save up to 600 gallons each month.
37. Listen for dripping faucets and toilets that flush themselves and save up to 500 gallons each month.
38. Cook food in as little water as possible. This will also retain more of the nutrients.
39. Turn the water off while you shampoo and condition your hair and save more than 50 gallons per week.
40. Choose new water-saving appliances, like washing machines which can save up to 20 gallons per load.

41. Select the proper size pans for cooking. Large pans require more cooking water than may be necessary.
42. Turn off the water while you shave and save more than 100 gallons per week.
43. If you accidentally drop ice cubes when filling your glass from the freezer, don't throw them in the sink. Drop them in a house plant instead.
44. To save water and time, consider washing your face or brushing your teeth while in the shower.
45. For hanging baskets, planters and pots, place ice cubes under the moss or dirt to give your plants a cool drink of water and help eliminate water overflow.
46. Throw trimmings and peelings from fruits and vegetables into your yard compost to prevent from using the garbage disposal.
47. Keep a bucket in the shower to catch water as it warms up or runs. Use this water to flush toilets or water plants.
48. When you are washing your hands, don't let the water run while you lather.
49. Pre-treat stains before washing clothes to avoid re-washing.
50. Use the shortest wash cycle for lightly soil cloths.
51. Check washing machine hoses regularly for leaks.
52. Do not pre-rinse dishes except in cases of sticky or burn-on food.
53. Scrap off food with a utensil or used paper napkin when pre-cleaning for dishwasher.

LANDSCAPE BEHAVIORS

1. Check your sprinkler system frequently and adjust sprinklers so only your lawn is watered and not the house, sidewalk, or street.
2. Avoid planting turf in areas that are hard to water such as steep inclines and isolated strips along sidewalks and driveways.
3. Plant during the spring or fall when the watering requirements are lower.
4. Minimize evaporation by watering during the early morning hours, when temperatures are cooler and winds are lighter.
5. Use a layer of organic mulch around plants to reduce evaporation.
6. Divide your watering cycle into shorter periods to reduce runoff and allow for better absorption every time you water.
7. Only water your lawn when needed. You can tell this by simply walking across your lawn. If you leave footprints, it's time to water.
8. Adjust your lawn mower to a higher setting. Longer grass shades root systems and holds soil moisture better than a closely clipped lawn.
9. Use the sprinkler for larger areas of grass. Water small patches by hand to avoid waste.

10. Use porous materials for walkways and patios to keep water in your yard and prevent wasteful runoff.
11. Direct downspouts and other runoff towards shrubs and trees, or collect and use for your garden.
12. Water your summer lawns once every three days and your winter lawn once every five days.
13. Install a rain shut-off device on your automatic sprinklers to eliminate unnecessary watering.
14. Choose a water-efficient drip irrigation system for trees, shrubs and flowers. Watering at the roots is very effective, be careful not to over water.
15. Reduce the amount of grass in your yard by planting shrubs and ground cover with rock and granite mulching.
16. Remember to check your sprinkler system valves periodically for leaks and keep the heads in good shape.
17. Don't water your lawn on windy days. After all, sidewalks and driveways don't need water.
18. Water your plants deeply but less frequently to create healthier and stronger landscapes.
19. When watering grass on steep slopes, use a soaker hose to prevent wasteful runoff.
20. Group plants with the same watering needs together to get the most out of your watering time.
21. Remember to weed your lawn and garden regularly. Weeds compete with other plants for nutrients, light, and water.
22. While fertilizers promote plant growth, they also increase water consumption. Apply the minimum amount of fertilizer needed.
23. Avoid installing ornamental water features and fountains that spray water into the air. Trickling or cascading fountains lose less water to evaporation.
24. Buy a rain gauge to track how much rain or irrigation your yard receives. Check with your local water agency to see how much rain is needed to skip an irrigation cycle.
25. Teach your family how to shut off your automatic watering systems. Turn sprinklers off if the system is malfunctioning or when a storm is approaching.
26. Set a kitchen timer when watering your lawn or garden with a hose.
27. Next time you add or replace a flower or shrub, choose a low water use plant for year-round landscape color and save up to 550 gallons each year.
28. Use a screwdriver as a soil probe to test soil moisture. If it goes in easily, don't water. Proper lawn watering can save thousands of gallons of water annually.
29. Avoid over-seeding your lawn with winter grass. Once established, ryegrass needs water every three to five days, whereas dormant Bermuda grass needs water only once a month.
30. Landscape with Xeriscape trees, plants and groundcovers. Call your local conservation office for more information about these water thrifty plants.

31. If you have an evaporative cooler, direct the water drain to a flowerbed, tree, or your lawn.
32. Leave lower branches on trees and shrubs and allow leaf litter to accumulate on top of the soil. This keeps the soil cooler and reduces evaporation.
33. Bermuda grasses are dormant (brown) in the winter and will only require water once every three to four weeks or less if it rains.
34. Start a compost pile. Using compost when you plant adds water-holding organic matter to the soil.
35. Use sprinklers that throw big drops of water close to the ground. Smaller drops of water and mist often evaporate before they hit the ground.
36. More plants die from over-watering than from under-watering. Be sure only to water plants when necessary.
37. Adjust your watering schedule to the season. Water your summer lawn every third day and your winter lawn every fifth day.
38. Water only as rapidly as the soil can absorb the water.
39. Aerate your lawn. Punch holes in your lawn about six inches apart so water will reach the roots rather than run off the surface.
40. Place an empty tuna can on your lawn to catch and measure the water output of your sprinklers. For lawn watering advice, contact your local conservation office.
41. When you give your pet fresh water, don't throw the old water down the drain. Use it to water your trees or shrubs.
42. For hanging baskets, planters and pots, place ice cubes under the moss or dirt to give your plants a cool drink of water and help eliminate water overflow.

COMMUNITY BEHAVIORS

1. Encourage your school system and local government to help develop and promote a water conservation ethic among children and adults.
2. Make suggestions to your employer to save water (and dollars) at work.
3. Support projects that use reclaimed wastewater for irrigation and other uses.
4. Encourage your friends and neighbors to be part of a water-conscious community.
5. Pick-up the phone and report significant water losses from broken pipes, open hydrants and errant sprinklers to the property owner or your water management district.
6. Do one thing each day that will save water. Even if savings are small, every drop counts.

MISCELLANEOUS BEHAVIORS

1. Install covers on pools and spas and check for leaks around your pumps.
2. Periodically check your pool for leaks if you have an automatic refilling device.
3. Use a commercial car wash that recycles water.
4. Don't buy recreational water toys that require a constant flow of water.
5. Use a grease pencil to mark the water level of your pool at the skimmer. Check the mark 24 hours later. Your pool should lose no more than 1/4 inch each day.
6. When the kids want to cool off, use the sprinkler in an area where your lawn needs it the most.
7. Make sure your swimming pools, fountains, and ponds are equipped with recirculation pumps.
8. Wash your car on the grass. This will water your lawn at the same time.
9. Bathe your pets outdoors in an area in need of water.
10. While staying in a hotel or even at home, consider reusing your towels.
11. When backwashing your pool, consider using the water on your landscaping.
12. When you have ice left in your cup from a take-out restaurant, don't throw it in the trash, dump it on a plant.

Trees

Common Name / Scientific Name	Description
Flame Amur Maple/ <i>Acer ginnala</i>	Height: 15' – 20' Spread: 12' – 15' Medium Growing, rounded deciduous broadleaf tree. Hardy to about -40°F. Likes sun.
Common Hackberry / <i>Celtis occidentalis</i>	Height: 50' – 60' Spread: 40' – 50' Hardy, deciduous tree, vigorous upright growth. Bright green foliage, turning yellow in fall. Excellent in alkaline soils, resistant to disease and insects. Zone 2.
Curl-leaf Mountain Mahogany / <i>Cercocarpus ledifolius</i>	Height: 10' – 20' Spread: 10' – 12' Slow growing, upright evergreen, small tree and large shrub. Rocky Mountain, Sierra Nevada native from 2,000 to 9,000 ft. elevation.
Mountain Mahogany / <i>Cercocarpus montanus</i>	Height: 10' – 15' Spread: 10' – 12' The true Mountain mahogany is a medium growing, small tree of large shrub. Deciduous in most areas. Xeriscape plant.
Russian Olive / <i>Elaeagnus angustifolia</i>	Height: 15' – 20' Spread: 12' – 15' Medium growing, rounded deciduous broadleaf tree. Hardy to about -40°F. Small yellow flowers, small silvery-yellow berries. Likes sun.
New Mexico Privet / <i>Forestiera neomexicana</i>	Height: 12' – 15' Medium growing, much-branched shrub or small tree. Light gray bark, a nice contrast to apple, green leaves that turn clear yellow in fall. Drought tolerant to western US.
Sierra Juniper / <i>Juniperus occidentalis</i>	Height: 25' Fast growing upright coniferous evergreen tree. Hardy to about -30°F. Native to western US, very drought tolerant.
Wichita Blue Juniper / <i>Juniperus scopulorum</i>	Height: 15' – 20' Spread: 5' – 10' Medium Growing, pyramidal coniferous evergreen tree. Best blue upright on the market. Hardy to about -35°F. Likes sun/part shade.
New Mexico Locust / <i>Robinia neomexicana</i>	Height: 10' – 12' Spread: 10' – 12' Small, thorny tree with pink, sweet, pea-like flowers in drooping racemes. Tolerates alkaline soils. Attractive tree for small spaces.

Plants/Shrubs

Common Name / Scientific Name	Description
Lead Plant/ <i>Amorpha canescens</i>	Height: 2' – 4' Spread: 2' – 4' Small, deciduous shrub with open habit displaying arching stems. Oval, grey leaflets followed by 3-4" spikes or purple flowers mid to late summer. Very showy, tolerates dry soils. Full sun.
Dr. Hurd Mountain Alder / <i>Arctostaphylos manzanita</i>	Height: 15' Large evergreen shrub. Glossy, light green foliage. Can handle minimal water conditions in summer. Full sun and good drainage for best result; too much water will slow growth.
Emerald Carpet Kinnikinnick / <i>Arctostaphylos</i>	Height: 2" – 4" Spread: 6' – 15' Slow growing, spreading evergreen broadleaf ground cover. Hardy to about -40°F. Pinkish-white flowers, red berries. Likes sun/part shade.
Point Reyes Manzanita / <i>Arctostaphylos uva-ursi</i>	Height: 1' Spread: 8' Slow growing, spreading evergreen ground cover. White, bell-shaped flowers in late winter followed by red berries. Full sun or part shade, Drought tolerant.

APPENDIX B – WATER-WISE TREES, PLANTS, AND LAWNS FOR THE CITY OF FERNLEY

Silver Sagebrush/ <i>Artemisia cana</i>	Height: 2' – 5' Spread: 2' – 3' Small to medium, mound-like evergreen shrub. Upright branching long slender silvery leaves. Yellow flowers in late summer. Very hardy to drought and cold. Colorado native. Full sun.
Fringed Sagebrush / <i>Artemisia frigida</i>	Height: 4" – 15" Fast growing, western native ground cover. Silver primately-divided leaves.
Four-wing Saltbush / <i>Atriplex canescens</i>	Height: 3' – 5' Spread: 3' – 4" Medium growing, evergreen shrub. Native to the arid west. Four-winged fruit in late summer, narrow gray leaves. Dense growth, tolerant of poor soils. Full sun.
Nuttall's Saltbush/ <i>Atriplex nuttallii</i>	Height: 2' – 4' Spread: Medium Silvery foliage. Adapted to dry alkaline sites, browse value, soil stabilization, reclamation and re-vegetation. Hardy to -30°F. Small yellow flowers.
Siberian Peashrub / <i>Caragana arborescens</i>	Height: 12' – 15' Spread: 8' – 10' Upright shrub, excellent as screen, hedge of windbreak. Bright green leaves on copper-green branches in spring, showy yellow pea-like flowers in late May. Tolerant of most soils. Full sun. Zone 2
Pygmy Peashrub / <i>Caragana Pygmaea</i>	Height: 2' – 3' Spread: 4' – 5' Slow growing, deciduous low informal of clipped hedge. One of the best shrubs for the plains area of the Northwest. Hardy to -40°F. Xeriscape plant.
Dark Knight Bluebeard / <i>Caryopteris x clandonensis</i>	Height: 18" – 24" Spread: 18" – 24" Medium growing, mounding deciduous broadleaf shrub. Hardy to about -15°F. Deep blue flowers, drought tolerant. Likes sun.
Rubber Rabbitbrush / <i>Chrysothamnus nauseosus</i>	Height: 2' – 4' Spread: 2' – 4' Rocky Mountain native. Medium height, deciduous shrub, long feathery grey leaves. Drought heat tolerant. Grows from 2,500-8,000 ft. elevation. Excellent cover for small animals.
Dwarf Blue Rubber Rabbitbrush / <i>Chrysothamnus nauseosus</i>	Height: 1' – 4' Spread: 2' – 4' Rocky Mountain native. Erect, freely branching deciduous shrub, Gray-green narrow leaves, rounded clusters of yellow flowers in late summer of fall. Tolerates many soil types. Full sun. Zones 1-3, 10, 11.
Peking Cotoneaster / <i>Cotoneaster acutifolia</i>	Height: 4' – 6' Spread: 4' – 6' Fast growing upright deciduous shrub. Hardy to about -40°F. Small pink flowers in spring. Black berries in fall. Xeriscape plant.
Spreading Cotoneaster / <i>Cotoneaster divaricatus</i>	Height: 5' – 6' Spread: 6' – 8' Medium growing, upright deciduous broadleaf shrub. Foliage turns bright red in fall. Hardy to about -25°F. small pinkish flowers. Showy red 1/3-inch berries. Likes sun/part shade.
Cliff rose/ <i>Cowania mexicana</i>	Height: 4' -15' Spread: 4' – 15' Slow growing, evergreen shrub native to the Four Corners of Colorado occurring in high plains 4,000 to 8,000 ft. elevation. Excellent winter browse.
Silverberruy/ <i>Elaeagnus commutata</i>	Height: 6' – 12' Spread: 6' – 12' Thornless, erect evergreen bush. Small, fragrant yellow flowers in early summer, silver-green fruit in late yellow flowers in early summer, , silver-green fruit in late summer. Full sun. Drought tolerant. Zones 7-10.
Mormon Tea/ <i>Ephedra viridis</i>	Height: 3' – 4' Spread: 3' – 4' Upright shrub. Slender, green to yellowish stems and branches. Papery yellowish cones in spring. Full sun. Drought tolerant. Zones 1-3, 7-24.

APPENDIX B – WATER-WISE TREES, PLANTS, AND LAWNS FOR THE CITY OF FERNLEY

Apache Plume/ <i>Fallugia paradoxa</i>	Height: 5' Spread: 5' Medium growing evergreen to deciduous shrub, from 3,500 to 8,000 ft. elevation. Showy white, rose-like flowers develop into feathery clusters of pink plumes. Very xeric plant.
Sea Green Juniper / <i>Juniperus chinensis</i>	Height: 24" – 30" Spread: 4' – 6' Medium growing, vase-like coniferous evergreen shrub. Attractive mint-green foliage. Hardy to about -50°F. Likes sun/part shade.
Green Pfitzer Juniper / <i>Juniperus chinensis</i>	Rapid growing, vase-like coniferous evergreen shrub. Hardy to about -35°F. Likes sun/part shade.
Old Gold Juniper / <i>Juniperus chinensis</i>	Height: 18" – 36" Spread: 4' – 6' Medium growing, spreading coniferous evergreen shrub. Best and brightest of the golden spreaders. Hardy to about -15°F. Likes sun.
Blue Chip Juniper / <i>Juniperus horizontalis</i>	Height: 8" – 12" Spread: 6' – 8' Low spreading, prostrate juniper, outstanding blue color all season. Plum color foliage in winter. Best in sun or light shade. Drought tolerant. Zones 3-8.
Tamarix Juniper / <i>Juniperus sabina</i>	Height: 18" – 24" Spread: 3' – 8' Medium growing, spreading coniferous evergreen shrub. Hardy to about -35°F. Likes sun/part shade.
Rocky Mountain juniper / <i>Juniperus scopulorum</i>	Height: 25' Spread: 10' – 12' Fast growing, upright coniferous evergreen tree Hardy to about -30°F. Native to western US. Very drought tolerant.
Table top Blue Juniper / <i>Juniperus scopulorum</i>	Height: 4' – 5' Spread: 5' – 7' Medium growing, spreading coniferous evergreen shrub. Bright blue year-round. Hardy to about -35°F. Likes sun/part shade.
Cheyenne Privet / <i>Ligustrum vulgare</i>	Height: 6' – 8' Spread: 4' – 6' Upright. Small, lanceolate, dark green leaves. White flowers in early summer. Xeriscape plant. Sun to filtered shade. Zones 4-8
Russian Sage / <i>Perovskia atriplicifolia</i>	Height: 3' – 4' spread: 18" – 24" Medium growing, Upright perennial. Likes sun. Aromatic gray sage with bluish spike flowers beginning in late summer.
Desert Peach/ <i>Prunus andersonii</i>	Height: 3' – 6' Spread: 3' – 6' Native to eastern Sierra Nevada. Deciduous shrub, light green foliage. Showy pink flowers in spring. Likes full sun, dry conditions and good drainage.
Antelope Bitterbrush / <i>Purshia tridentata</i>	Height: 10' Spread: 10' Upright, multi-branched deciduous shrub. Slender, reddish-brown young twigs. Small, yellow tubular flower with flared petals.
Western Smooth Sumac / <i>Rhus glabra</i>	Height: 2' – 3' Spread: 2' – 3' Open, rounded shrub. Large, oblong, bright green leaflets turn yellow to crimson red in fall. Small, yellow flowers in late summer. Rocky Mountain native. Drought tolerant. Zones 2-7.
Pink Sierra Currant / <i>Ribes nevadense</i>	Height: 3' – 5' Spread: 3' – 5' Deciduous shrub native to 4,000 to 8,000 throughout Calif. Showy hanging pink cascades in April to July. Drought tolerant, can grow in standing water.
Silver Buffaloberry / <i>Shepherdia argentea</i>	Height: 8' – 12' Spread: 8' – 12' Fast growing, upright deciduous shrub. Silver foliage similar to Russian Olive; fruit makes fine jelly. Xeriscape plant, tolerant of drought and cold.
Banana Yucca/ <i>Yucca baccata</i>	Height: 1' – 3' Slow growing, evergreen broadleaf perennial. Hardy to about -25°F. Fleshy flowers, reddish outside, whit inside. Likes sun.
Adam's Needle/ <i>Yucca filamentosa</i>	Height: 2' – 3' spread: 2' – 3' Slow growing, rounded evergreen broadleaf shrub. Hardy to about -15°F Creamy whit flowers. Likes sun/part shade.

Soapweed/Yucca glauca	Height: 2' – 3' Spread: 2' – 3' Slow growing, rounded evergreen broadleaf shrub. Hardy to about -30°F. Greenish-white flowers. Likes sun.
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Grasses

Common Name / Scientific Name	Description
Feather Reed Grass /Calamagrostis acutiflora 'Karl Foerster'	Height: 4' – 7' Medium growing, upright evergreen broadleaf. Hardy to about -25°F. Silvery white flowers, cut back to ground in spring. Likes sun.
Feather Reed Grass /Calamagrostis acutiflora 'Overdam'	Height: 4' – 7' Medium growing, upright evergreen broadleaf. A beautiful variegated form with cream white stripes. Hardy to about -25°F. Silvery white flowers, cut back to ground in spring. Likes sun.
Hardy Pampas Grass /Erianthus ravennae	Height: 9' – 12' Medium growing, mounding deciduous grass. Hardy to about -15°F. Silver plume flowers. Likes sun.
Blue Oat Grass /Helictotrichon sempervirens	Height: 2' – 3' Spread: 18" – 24" Blue-leaved grass, blooms in May, arched sprays of light, buff-colored seed spikes. Full sun, good drainage. Zones 4-9.
Blue Indian Grass/Sorghastrum	Native part of the tall grass prairies of America, excellent in mass plantings of in prairie restoration. Metallic-blue foliage. Recent Longwood Gardens.
Small-seeded Beargrass /Nolina microcarpa	Height: 2' – 3' Spread: 2' – 3' Native from Arizona, Texas and Mexico. Evergreen, grass-like with narrow olive green leaves. Tiny pink flowers on tall stalks in summer. Zones 3, 10-13.

Turf Grass

Common Name / Scientific Name	Description
Chewings Fescue /Fetuca rubra ssp. commutata	Medium water requirement. Part shade lawn.
Perennial Ryegrass /Lolium perenne	Medium to dry water requirement. Sun, common in lawn seed mix and sod.
Tall Fescue & Cultivars /Festuca elatior	Medium water requirement. Part shade lawn.

These plants are idea for xeriscapes and will do well in the City of Fernley PWDWD service area. This list may not be complete and is intended as a guideline. Other water saving plants may be added to the list as they are brought to the attention of PWDWD.

WATER

- www.awra.org
- www.awwa.org
- <http://www.waterconserve.info/>

LANDSCAPE

- <http://www.nrcs.usda.gov/feature/backyard/>

EDUCATION

- www.wateruseitwisely.com
- <http://www.washoeet.dri.edu>

INSTITUTIONAL

- www.lvvwd.com
- www.snwa.com
- www.tmh20.com
- <http://www.cabq.gov/water/>
- www.ci.phoenix.az.us/WATER/wtrteach.html
- <http://www.owue.water.ca.gov/leak/faq/faq.cfm>

CITY OF FERNLEY

- The City of Fernley website has numerous links to various organizations and governmental entities which specialize in water or water conservation, <http://www.cityoffernley.org/index.asp?nid=283>.

APPENDIX D – WATER CONSERVING APPLIANCES
ENERGY STAR Qualified Clothes Washers

Last Modified: 11/28/2007

Brand	Model	Product Name	Volume (cubic feet)	kWh/year	Annual Water Use (gallons/ year)	Active	Active Date
Amana	NAH6800		2.9	243	8,185	Yes	11/30/2006
Amana	NFW7200TW		2.8	214	5,159	Yes	9/21/2007
Ariston	AW120		1.92	143	3,763	Yes	8/4/2004
Ariston	AW129		1.9	190	4,737	Yes	5/29/2006
Ariston	AW149		1.9	190	4,737	Yes	5/29/2006
Ariston	AWD120		1.92	143	3,763	Yes	8/4/2004
Asko	W6022		1.96	100	2,612	Yes	6/30/2006
Asko	W6222		1.96	100	2,612	Yes	6/30/2006
Asko	W6441		1.96	189	5,749	Yes	1/29/2003
Asko	W6461		2.04	127	5,486	Yes	1/26/2005
Asko	W6761		1.96	189	5,749	Yes	1/29/2003
Asko	WCAM1812		2.46	217	7,213	Yes	7/22/2003
Blomberg	WM 26110 NBL00		1.7	138	5,065	Yes	9/12/2007
Blomberg	WM 67120 NBL00		1.95	145	5,886	Yes	9/12/2007
Bosch	WFL2060UC	Axxis	1.85	194	4,692	Yes	3/27/2002
Bosch	WFL2090UC	Axxis	1.85	121	4,692	Yes	11/6/2006
Bosch	WFMB3200UC	Nexxt Inspiration	3.31	186	6,877	Yes	2/14/2006
Bosch	WFMC1001UC		3.31	146	5,592	Yes	4/5/2006
Bosch	WFMC2100UC	Essence	3.31	170	6,150	Yes	6/1/2005
Bosch	WFMC2201UC		3.31	165	5,631	Yes	4/5/2006
Bosch	WFMC3200UC	Nexxt	3.31	186	6,877	Yes	11/3/2003
Bosch	WFMC3301UC		3.31	182	5,501	Yes	4/5/2006
Bosch	WFMC330SUC		3.31	182	5,501	Yes	4/5/2006
Bosch	WFMC4300UC	DLX	3.31	182	5,956	Yes	6/1/2005
Bosch	WFMC4301UC		3.31	182	5,501	Yes	4/5/2006
Bosch	WFMC5301UC		3.31	151	5,800	Yes	8/10/2007
Bosch	WFMC530CUC		3.31	151	5,800	Yes	8/10/2007
Bosch	WFMC530SUC		3.31	151	5,800	Yes	8/10/2007
Bosch	WFMC6400UC	Nexxt premium	3.31	178	5,839	Yes	11/3/2003
Bosch	WFMC6401UC		3.31	176	5,268	Yes	4/5/2006
Bosch	WFMC640SUC	Nexxt Premium Platinum	3.31	176	5,268	No	9/1/2005
Bosch	WFMC8400UC		3.31	151	5,359	Yes	10/18/2007
Bosch	WFMC8401UC		3.31	151	5,359	Yes	8/10/2007
Bosch	WFR2460UC	Axxis+	1.85	184	4,155	No	3/27/2002
Crosley	CAH4205		2.9	243	8,185	Yes	10/11/2005
Crosley	CFW2000F		2.65	126	7,272	Yes	3/26/2007
Crosley	CFW4000F		3	202	4,845	Yes	3/26/2007
Crosley	CFW5000F		3	179	5,139	Yes	3/26/2007
Crosley	CLCE900F		2.65	165	5,412	Yes	3/26/2007
Crosley	CLCG900F		2.65	165	5,412	Yes	3/26/2007
Danby Designer	DWM5500W-1		1.7	154	4,418	Yes	11/6/2003
Equator	EW 510		1.7	176	4,745	Yes	5/9/2005
Equator	EW 620		1.9	141	5,288	Yes	11/10/2006

APPENDIX D – WATER CONSERVING APPLIANCES

Equator	EZ 1612 V		1.92	135	3,650	Yes	12/16/2002
Equator	EZ 1710 V		1.7	176	4,745	Yes	5/9/2005
Equator	EZ 1720 V		1.9	141	5,288	Yes	11/10/2006
Equator	EZ 2512 CEE		1.6	125	3,763	Yes	11/7/2005
Equator	EZ 3612 CEE		1.92	143	3,763	Yes	11/7/2005
Equator	EZ 3710 CEE		1.7	176	4,745	Yes	5/9/2005
Equator	EZ 3720 CEE		1.9	141	5,288	Yes	11/10/2006
Eurotech	EWC177		2.46	217	7,213	Yes	7/22/2003
Eurotech	EW272EL		2.4	212	6,868	Yes	3/25/2004
Fagor	FA-5812		1.97	193	5,197	Yes	8/28/2007
Fagor	FA-5812 X		1.97	193	5,197	Yes	8/28/2007
Fisher & Paykel	GWL15	Ecosmart	3	220	8,455	Yes	2/1/2006
Fisher & Paykel	IWL16	Intuitive	3	219	8,067	Yes	2/1/2006
Fisher & Paykel	WL26CW1	AquaSmart	3.1	211	7,291	Yes	4/10/2007
Fisher & Paykel	WL26CW2		3.13	199	7,104	Yes	9/11/2007
Fisher & Paykel	WL37T26C		3.1	199	7,036	Yes	8/6/2007
Fisher & Paykel	WL37T26D		3.1	199	7,036	Yes	8/6/2007
Frigidaire	ATF6000E	Affinity	3	240	6,174	No	12/19/2005
Frigidaire	ATF6000F		3	179	5,139	Yes	3/26/2007
Frigidaire	ATF6500F		3	240	6,174	No	10/2/2006
Frigidaire	ATF6500G		3	179	5,139	Yes	3/26/2007
Frigidaire	ATF6700F		3	179	5,139	Yes	6/20/2007
Frigidaire	ATF7000E	Affinity	3	257	5,998	No	2/23/2006
Frigidaire	ATF7000F		3	203	5,139	Yes	3/26/2007
Frigidaire	ATF8000F		3	203	5,139	Yes	6/20/2007
Frigidaire	ATFB6000E		3	240	6,174	No	1/19/2006
Frigidaire	ATFB6000F		3	179	5,139	Yes	3/26/2007
Frigidaire	ATFB6700F		3	179	5,139	Yes	10/4/2007
Frigidaire	ATFB7000E		3	257	5,998	No	2/23/2006
Frigidaire	ATFB7000F		3	203	5,139	Yes	6/20/2007
Frigidaire	FTF2140E		3	247	6,633	No	12/16/2004
Frigidaire	FTF2140F		3	202	4,845	Yes	3/26/2007
Frigidaire	FTF530F		2.65	126	7,272	Yes	8/2/2006
Frigidaire	FTFB2940		3	196	4,951	Yes	6/20/2007
Frigidaire	FTFB4000F		3	247	6,633	No	2/23/2006
Frigidaire	FTFB4000G		3	202	4,845	Yes	3/26/2007
Frigidaire	GLEH1642F		2.65	165	5,412	Yes	1/2/2007
Frigidaire	GLGH1642F		2.65	165	5,412	Yes	1/2/2007
Frigidaire	GLTF2940E		3	215	6,033	No	2/22/2005
Frigidaire	GLTF2940F		3	196	4,951	Yes	3/26/2007
Frigidaire	GLTR1670F		2.65	210	5,589	Yes	1/2/2007
Frigidaire	LTF2140F		3	202	4,845	Yes	3/26/2007
Frigidaire	LTF2940E		3	215	6,033	No	1/31/2005
Frigidaire	LTF2940F		3	196	4,951	Yes	3/26/2007
Frigidaire	LTF530F		2.65	126	7,272	Yes	8/2/2006
Frigidaire	LTF6000E		3	240	6,174	No	1/19/2006
Frigidaire	LTF6000F		3	179	5,139	Yes	3/26/2007

APPENDIX D – WATER CONSERVING APPLIANCES

Frigidaire	LTF6700F		3	179	5,139	Yes	10/4/2007
Frigidaire	LTF6700F		3	179	5,139	Yes	10/4/2007
Frigidaire	LTF7000E		3	257	5,998	No	2/23/2006
Frigidaire	LTF7000F		3	203	5,139	Yes	3/26/2007
Frigidaire	LTF8000F		3	196	5,139	Yes	6/20/2007
General Electric	WBVH5100H		3.11	120	5,254	Yes	3/23/2007
General Electric	WBVH5200J		3.35	142	5,250	Yes	11/27/2007
General Electric	WBVH6240F		3.21	239	5,785	Yes	9/1/2005
General Electric	WBVH6240H		3.21	122	5,272	Yes	3/23/2007
General Electric	WCRE6270H		3.47	281	10,746	Yes	6/11/2007
General Electric	WCVH6260F		3.21	239	5,785	Yes	9/1/2005
General Electric	WCVH6260H		3.21	122	5,272	Yes	3/23/2007
General Electric	WCVH6400J		3.35	142	5,250	Yes	11/27/2007
General Electric	WCVH6600H		3.33	142	5,365	Yes	3/23/2007
General Electric	WCVH6800J		3.51	142	5,496	Yes	11/27/2007
General Electric	WHDVH626F		3.21	239	5,785	Yes	9/1/2005
General Electric	WHDVH626H		3.21	122	5,272	Yes	3/23/2007
General Electric	WHDVH660H		3.33	142	5,365	Yes	3/23/2007
General Electric	WHDVH680J		3.51	142	5,496	Yes	11/27/2007
General Electric	WJRE5550H		3.5	281	10,839	Yes	6/11/2007
General Electric	WPGT9150H***		3.53	350	9,880	Yes	11/2/2007
General Electric	WPGT9360E**	Harmony	3.53	269	9,797	Yes	12/6/2004
General Electric	WPRE6150H		3.5	281	10,839	Yes	6/11/2007
General Electric	WPRE8150H		3.5	281	10,839	Yes	6/11/2007
General Electric	WSSH300G		3	247	6,633	Yes	10/2/2006
General Electric	WSXH208H		2.65	201	7,511	Yes	1/2/2007
Haier	GWT700AW		3.15	255	8,310	Yes	8/6/2007
Haier	GWT800AW		3.15	238	8,310	Yes	8/6/2007
Haier	GWT900AW		3.15	238	8,310	Yes	8/6/2007
Haier	HBF1055TVE		1.78	175	5,415	Yes	8/6/2007
Haier	HLT364XXQ		3.15	238	8,310	Yes	5/9/2006
Haier	XQS100-0677		3.15	238	8,310	Yes	5/9/2006
Kenmore	2706*60+	Oasis	3.89	316	11,116	Yes	10/19/2005
Kenmore	2707*60+	Oasis	3.89	316	11,116	Yes	10/19/2005
Kenmore	2708*60+	Oasis	3.89	316	11,116	Yes	10/19/2005
Kenmore	2709*60+	Oasis	3.89	316	11,116	Yes	10/19/2005

APPENDIX D – WATER CONSERVING APPLIANCES

Kenmore	2803*70+		3.9	408	12,139	Yes	8/21/2007
Kenmore	2804*70+		3.9	408	12,139	Yes	8/21/2007
Kenmore	4041*		2.65	224	7,542	Yes	10/4/2007
Kenmore	4282*20+	HE3	3.18	268	5,435	Yes	9/28/2001
Kenmore	4292*20+	HE3t	3.18	278	5,522	Yes	6/14/2001
Kenmore	4390*20+		3.18	278	5,522	Yes	1/23/2003
Kenmore	4405		3	219	5,762	No	12/16/2004
Kenmore	4408		3	230	5,574	No	1/31/2005
Kenmore	4409		3	230	5,574	No	1/31/2005
Kenmore	4415		3	219	5,762	No	12/16/2004
Kenmore	4425		3	219	5,762	No	8/12/2005
Kenmore	4482*30+	HE3	3.18	268	5,435	Yes	8/29/2003
Kenmore	4483*20+	HE3	3.18	268	5,323	Yes	8/29/2003
Kenmore	4483*30+	HE3	3.18	268	5,435	Yes	1/23/2003
Kenmore	4492*20+	HE3t	3.18	278	5,522	Yes	1/23/2003
Kenmore	4492*30+		3.18	278	5,111	Yes	10/8/2004
Kenmore	4493*20+	HE3t	3.18	278	5,522	Yes	1/23/2003
Kenmore	4493*30+	HE3t	3.18	278	5,111	Yes	1/23/2003
Kenmore	4508*40+	HE4t	3.3	241	5,588	Yes	1/18/2005
Kenmore	4509*40+	HE4t	3.3	241	5,588	Yes	1/18/2005
Kenmore	4580*40+		3.3	195	5,808	Yes	2/27/2007
Kenmore	4580*50+		3.3	195	5,808	Yes	8/15/2005
Kenmore	4586#40**	HE3	3.3	195	5,808	Yes	8/23/2004
Kenmore	4586*50+		3.3	195	5,808	Yes	8/15/2005
Kenmore	4587#40**		3.3	195	5,808	Yes	8/23/2004
Kenmore	4587*50+		3.3	195	5,808	Yes	8/15/2005
Kenmore	4596*40+	HE3t	3.3	195	5,808	Yes	10/2/2004
Kenmore	4596*50+		3.3	188	5,808	Yes	8/11/2005
Kenmore	4597*40+		3.3	195	5,808	Yes	2/27/2007
Kenmore	4597*50+	HE3	3.3	188	5,808	Yes	10/2/2004
Kenmore	4598#40**	HE4t	3.3	241	5,588	Yes	8/23/2004
Kenmore	4599#40**	HE4t	3.3	241	5,588	Yes	8/23/2004
Kenmore	4646*50+	HE2	2.88	170	5,408	Yes	8/15/2005
Kenmore	4647*50+	HE2	2.88	170	5,408	Yes	8/15/2005
Kenmore	4650*+		2.88	166	5,972	Yes	4/6/2007
Kenmore	4651*+		2.88	166	5,972	Yes	4/6/2007
Kenmore	4674*70+		3.51	140	5,187	Yes	7/24/2007
Kenmore	4675*70+		3.51	140	5,187	Yes	7/24/2007
Kenmore	4708#60**	HE5t	3.29	173	5,288	Yes	12/21/2006
Kenmore	4709#60**	HE5t	3.29	173	5,288	Yes	12/21/2006
Kenmore	4710*		2.65	224	7,542	Yes	1/2/2007
Kenmore	4751*60+	HE2	3.03	161	5,654	Yes	5/2/2006
Kenmore	4753*60+	HE2	3.03	161	5,654	Yes	5/2/2006
Kenmore	4754*60+		3.03	161	5,654	Yes	5/2/2006
Kenmore	4756*60+	HE 2T	3.1	156	5,310	Yes	8/24/2006
Kenmore	4756*70+		3.26	145	4,690	Yes	8/21/2007
Kenmore	4757*60+	HE 2T	3.1	156	5,310	Yes	8/24/2006
Kenmore	4757*70+		3.26	145	4,690	Yes	9/11/2007
Kenmore	4758*60+		3.1	156	5,310	Yes	8/24/2006
Kenmore	4778*70+		3.51	151	5,311	Yes	7/24/2007
Kenmore	4779*70+		3.51	151	5,311	Yes	7/24/2007
Kenmore	4785*+		3.29	176	5,791	Yes	4/6/2007

APPENDIX D – WATER CONSERVING APPLIANCES

Kenmore	4788*+		3.29	176	5,791	Yes	4/6/2007
Kenmore	4789*+		3.29	176	5,791	Yes	4/6/2007
Kenmore	4810*		3	202	4,845	Yes	6/20/2007
Kenmore	4811*		3	202	4,845	Yes	6/20/2007
Kenmore	4996#60**	HE3t	3.29	176	5,791	Yes	12/21/2006
Kenmore	4997#60**	HE3t	3.29	176	5,791	Yes	12/21/2006
KitchenAid	KHWS01P#**	Ensemble Superba	3.3	311	5,524	Yes	1/21/2004
KitchenAid	KHWS02R*+		3.3	311	5,524	Yes	8/15/2005
KitchenAid	KHWV01R*+		3.3	214	5,485	Yes	8/24/2006
LG Electronics	WD-324*RHD		1.96	298	3,872	Yes	7/26/2001
LG Electronics	WD-327*RHD		1.95	140	4,854	Yes	9/19/2002
LG Electronics	WM0001H***		3.63	143	4,824	Yes	11/2/2007
LG Electronics	WM0532H*		3.22	191	5,238	Yes	4/2/2003
LG Electronics	WM064#H*		3.32	167	4,948	Yes	6/13/2005
LG Electronics	WM1811C*		3.22	184	5,380	Yes	12/17/2002
LG Electronics	WM1812C*		2.96	184	5,163	Yes	4/13/2004
LG Electronics	WM1814C*	Tromm (rear controls)	2.96	184	5,163	Yes	4/13/2004
LG Electronics	WM1815C*		2.96	184	5,163	Yes	10/13/2005
LG Electronics	WM1832C*	Tromm (rear controls)	3.22	184	5,074	Yes	12/17/2002
LG Electronics	WM2011H*		3.22	191	5,048	Yes	12/17/2002
LG Electronics	WM2016CW		3.03	152	4,323	Yes	3/9/2007
LG Electronics	WM2032H*		3.22	191	5,238	Yes	12/17/2002
LG Electronics	WM204#C*		3.32	152	4,828	Yes	6/13/2005
LG Electronics	WM207#C*	Tromm (front controls)	3.32	159	4,919	Yes	3/22/2004
LG Electronics	WM2177H*		3.21	253	5,285	Yes	2/4/2005
LG Electronics	WM2233H*		3.32	194	4,854	Yes	4/3/2007
LG Electronics	WM2277H*	Tromm (front controls)	3.32	171	4,724	Yes	1/15/2004
LG Electronics	WM2411H*		3.22	199	5,039	Yes	12/17/2002
LG Electronics	WM2432H*	Tromm (front controls)	3.22	199	5,213	Yes	12/17/2002
LG Electronics	WM244#H*		3.32	167	4,948	Yes	6/13/2005
LG Electronics	WM2455H*		3.47	180	5,155	Yes	4/3/2007
LG Electronics	WM248#H***		3.63	137	5,066	Yes	7/5/2006
LG Electronics	WM2496H**		3.47	167	4,557	Yes	12/1/2006

APPENDIX D – WATER CONSERVING APPLIANCES

LG Electronics	WM2677H**		3.32	176	4,731	Yes	2/1/2005
LG Electronics	WM268#H**	SteamWasher	3.47	171	4,690	Yes	1/5/2006
LG Electronics	WM3431H*		2.11	197	4,260	Yes	2/16/2005
LG Electronics	WM3611H*		3.22	199	5,039	Yes	5/20/2003
LG Electronics	WM3632H*		3.22	199	5,213	Yes	5/20/2003
LG Electronics	WM3677H*		3.22	253	5,301	Yes	4/13/2004
LG Electronics	WM398#H***		3.63	154	4,881	Yes	11/2/2007
Maytag	FAV6800	Neptune TL	3	250	9,196	Yes	12/18/2003
Maytag	MAH2400		2.05	170	4,701	Yes	7/12/2004
Maytag	MAH5500B	Neptune	2.9	243	8,185	Yes	10/27/2000
Maytag	MAH55FLB	Neptune	2.9	243	8,185	Yes	3/24/2003
Maytag	MAH6500	Neptune	2.9	243	8,185	Yes	6/19/2002
Maytag	MAH6700	Neptune	2.82	214	5,173	Yes	5/18/2005
Maytag	MAH8700	Neptune	3.31	250	5,281	Yes	2/11/2005
Maytag	MAH9700	Neptune	3.31	270	5,151	Yes	12/13/2004
Maytag	MFW9600S*+	Epic	3.29	218	5,855	Yes	8/24/2006
Maytag	MFW9700S#**	Epic	3.29	212	5,649	Yes	8/24/2006
Maytag	MFW9700T*+		3.5	227	5,872	Yes	8/21/2007
Maytag	MFW9800T*+		3.5	227	5,872	Yes	8/21/2007
Maytag	MHWZ400T*+		3.26	183	5,444	Yes	8/21/2007
Maytag	MHWZ600T*+		3.26	153	5,009	Yes	8/21/2007
Maytag	MTW6500T*+		3.89	311	10,857	Yes	4/6/2007
Maytag	MTW6600T*+		3.89	311	10,857	Yes	4/6/2007
Miele	PW6065		2.08	142	3,995	Yes	10/4/2007
Miele	W1113	Touchtronic Series	1.73	113	3,045	Yes	5/19/2004
Miele	W1119		1.73	113	3,045	Yes	5/19/2004
Miele	W1203		2.08	127	3,547	Yes	5/19/2004
Miele	W1213		2.08	127	3,547	Yes	5/19/2004
Miele	W1215		2.08	127	3,547	Yes	5/19/2004
Miele	W3033		1.97	138	3,406	Yes	10/4/2007
Miele	W3035		1.97	138	3,406	Yes	10/4/2007
Miele	W3039		1.76	128	3,043	Yes	10/4/2007
Miele	W4800		3.07	186	5,091	Yes	1/4/2007
Miele	W4840		3.07	186	5,091	Yes	1/4/2007
Samsung	WF203***		2.95	225	4,961	Yes	2/23/2007
Samsung	WF206***		3.29	210	5,017	Yes	10/10/2006
Samsung	WF306*A*		3.3	210	5,045	Yes	8/21/2007
Samsung	WF306BHW		3.29	210	5,017	Yes	2/15/2006
Samsung	WF306LAW		3.29	210	5,017	Yes	1/20/2006
Samsung	WF316***		3.29	220	5,017	Yes	12/21/2005
Samsung	WF317***		3.29	220	5,017	Yes	5/24/2007
Samsung	WF326LAS		3.29	220	4,978	Yes	12/1/2005
Samsung	WF326LAW		3.29	220	4,978	Yes	12/1/2005
Samsung	WF328***		3.3	210	4,916	Yes	7/17/2007
Samsung	WF337***		3.29	210	4,914	Yes	3/23/2007
Siemens	WFXD5200UC		3.31	186	6,877	Yes	5/4/2004

APPENDIX D – WATER CONSERVING APPLIANCES

Siemens	WFXD5201UC		3.31	182	5,514	Yes	4/5/2006
Siemens	WFXD5202UC		3.31	161	5,514	Yes	8/10/2007
Siemens	WFXD8400UC		3.31	178	5,839	Yes	5/4/2004
Siemens	WFXD840AUC		3.31	176	5,268	Yes	10/3/2005
Speed Queen	ATS90***		2.84	224	6,902	Yes	10/15/2004
Speed Queen	ATS95***		2.84	257	8,127	Yes	3/14/2005
Speed Queen	ATSA0***		2.84	184	5,455	Yes	12/14/2006
Speed Queen	ATSA5***		2.84	211	5,455	Yes	12/14/2006
Speed Queen	CTS90***		2.84	224	6,902	Yes	10/15/2004
Speed Queen	CTS97***		2.84	224	6,902	Yes	10/15/2004
Speed Queen	CTS99***		2.84	224	6,902	Yes	10/15/2004
Speed Queen	CTSA0***		2.84	184	5,455	Yes	12/14/2006
Speed Queen	CTSA7***		2.84	184	5,455	Yes	12/14/2006
Speed Queen	CTSA9***		2.84	184	5,455	Yes	12/14/2006
Splendide	WD2100		1.92	143	3,688	No	11/7/2005
Splendide	WD2100XC		1.82	153	4,552	Yes	10/23/2007
Splendide	WD2100XCP		1.82	153	4,552	Yes	10/23/2007
Splendide	WDC6200CEE		1.82	143	3,567	Yes	11/7/2005
Splendide	WDC6200CEE		1.92	143	3,763	No	5/8/2003
Splendide	WDC7100XC		1.82	153	4,552	Yes	10/23/2007
Staber	HXW2304		2	180	5,292	Yes	2/22/2000
Summit	SPW1102		1.7	154	4,418	Yes	11/6/2003
Thor	XQG65-11	Softline	2.01	203	4,491	Yes	5/22/2002
Whirlpool	GHW9150P*+	Duet	3.3	176	5,562	Yes	8/18/2004
Whirlpool	GHW9160P*+		3.3	190	5,899	Yes	8/18/2004
Whirlpool	GHW9250M*+	Duet HT	3.18	285	5,410	Yes	7/21/2003
Whirlpool	GHW9300P*+	Duet	3.3	186	5,938	Yes	12/9/2004
Whirlpool	GHW9400P#**	Duet HT	3.3	227	5,511	Yes	8/18/2004
Whirlpool	GHW9400S*+		3.3	227	5,511	Yes	1/12/2007
Whirlpool	GHW9460P#**	Duet	3.3	230	5,433	Yes	8/18/2004
Whirlpool	LHW0050**		2.46	212	5,796	Yes	10/19/2004
Whirlpool	WFW8200T*+		2.99	169	5,251	Yes	8/21/2007
Whirlpool	WFW8300S*+	Duet Sport	2.88	168	5,521	Yes	3/1/2006
Whirlpool	WFW8400T*+		3.26	156	5,061	Yes	7/24/2007
Whirlpool	WFW8410S*+		3.1	189	6,161	Yes	8/24/2006
Whirlpool	WFW8500S*+	Duet Sport HT	3.1	152	5,286	Yes	5/25/2006
Whirlpool	WFW9200S*#**		3.29	182	5,713	Yes	4/3/2007
Whirlpool	WFW9200T*#**		3.29	182	5,713	No	12/21/2006
Whirlpool	WFW9400S*#**		3.29	178	5,313	Yes	4/3/2007
Whirlpool	WFW9400T*#**		3.29	178	5,313	No	12/21/2006
Whirlpool	WFW9500T*+		3.51	151	5,270	Yes	8/21/2007
Whirlpool	WFW9600T*#**		3.29	178	5,313	No	12/21/2006
Whirlpool	WFW9600T*+		3.51	150	5,256	Yes	7/24/2007
Whirlpool	WTW6400S*+	Cabrio	3.89	307	10,476	Yes	5/25/2006

APPENDIX D – WATER CONSERVING APPLIANCES

Whirlpool	WTW6600S**	Cabrio	3.89	307	10,476	Yes	5/25/2006
Whirlpool	WTW6700T**		4.02	274	8,746	Yes	8/21/2007

ENERGY STAR Qualified Dishwashers

Last Modified: 12/13/2007

Brand	Model	Size	kWh/Year	Active	Active Date
Amana	ADB1500	Standard	334	Yes	3/9/2005
Amana	ADB2500	Standard	334	Yes	3/9/2005
Amana	ADB3500	Standard	334	Yes	3/9/2005
Americana	ADW11**N	Standard	330	Yes	3/30/2007
Ariston	L63*	Standard	270	Yes	8/4/2004
Ariston	LI640*	Standard	270	Yes	8/4/2004
Ariston	LI670*	Standard	270	Yes	8/4/2004
Ariston	LI700*	Standard	270	Yes	8/4/2004
Ariston	LL64*	Standard	270	Yes	8/4/2004
Ariston	LL65*	Standard	270	Yes	8/4/2004
Asko	D3112	Standard	278	Yes	7/21/2005
Asko	D3121**	Standard	278	Yes	8/9/2004
Asko	D3122**	Standard	247	Yes	7/21/2005
Asko	D3152	Standard	242	Yes	6/11/2007
Asko	D3232	Standard	278	Yes	4/5/2006
Asko	D3251	Standard	242	Yes	6/11/2007
Asko	D3251FI	Standard	231	Yes	8/9/2004
Asko	D3251HD	Standard	231	Yes	8/9/2004
Asko	D3251XLFI	Standard	231	Yes	8/9/2004
Asko	D3251XLHD	Standard	231	Yes	8/9/2004
Asko	D3252	Standard	242	Yes	6/11/2007
Asko	D3252**	Standard	231	Yes	7/21/2005
Asko	D3331**	Standard	247	Yes	8/9/2004
Asko	D3432	Standard	247	Yes	6/11/2007
Asko	D3432**	Standard	242	Yes	7/21/2005
Asko	D3451**	Standard	231	Yes	8/9/2004
Asko	D3531	Standard	194	Yes	6/11/2007
Asko	D3531XLFI	Standard	194	Yes	8/9/2004
Asko	D3531XLHD	Standard	194	Yes	8/9/2004
Asko	D3532	Standard	194	Yes	6/11/2007
Asko	D3731	Standard	247	Yes	4/5/2006
Blomberg	DW14110NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW14120NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW14140NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW15110NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW15111NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW15120NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW15121NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW15140NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW15141NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW34100NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW34110NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW34120NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW34140NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW35100NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW35110NBL00	Standard	322	Yes	10/24/2006

APPENDIX D – WATER CONSERVING APPLIANCES

Blomberg	DW35120NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW35140NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36100NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36101NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36110NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36111NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36120NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36121NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36140NBL00	Standard	322	Yes	10/24/2006
Blomberg	DW36141NBL00	Standard	322	Yes	10/24/2006
Blomberg	DWT14210NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT14220NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT14240NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT15210NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT15211NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT15220NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT15221NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT15240NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT15241NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT34200NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT34210NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT34220NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT34240NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT35200NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT35210NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT35220NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT35240NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36200NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36201NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36210NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36211NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36220NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36221NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36240NBL00	Standard	322	Yes	7/30/2007
Blomberg	DWT36241NBL00	Standard	322	Yes	7/30/2007
Bosch	SHE33M02UC	Standard	259	Yes	5/31/2007
Bosch	SHE33M05UC	Standard	259	Yes	5/31/2007
Bosch	SHE33M06UC	Standard	259	Yes	5/31/2007
Bosch	SHE42L12UC	Standard	315	Yes	8/19/2005
Bosch	SHE42L15UC	Standard	315	Yes	8/19/2005
Bosch	SHE42L16UC	Standard	315	Yes	8/19/2005
Bosch	SHE43C02UC	Standard	315	Yes	6/13/2005
Bosch	SHE43C05UC	Standard	315	Yes	6/13/2005
Bosch	SHE43C06UC	Standard	315	Yes	6/13/2005
Bosch	SHE43F02UC	Standard	315	Yes	5/31/2007
Bosch	SHE43F05UC	Standard	315	Yes	5/31/2007
Bosch	SHE43F06UC	Standard	315	Yes	5/31/2007
Bosch	SHE43M02UC	Standard	259	Yes	5/31/2007
Bosch	SHE43M06UC	Standard	259	Yes	5/31/2007
Bosch	SHE44C02UC	Standard	315	Yes	6/10/2005
Bosch	SHE44C05UC	Standard	315	Yes	6/10/2005
Bosch	SHE44C06UC	Standard	315	Yes	6/13/2005

APPENDIX D – WATER CONSERVING APPLIANCES

Bosch	SHE44C07UC	Standard	315	Yes	6/13/2005
Bosch	SHE45C02UC	Standard	315	Yes	11/21/2006
Bosch	SHE45C05UC	Standard	315	Yes	11/21/2006
Bosch	SHE45M02UC	Standard	259	Yes	5/31/2007
Bosch	SHE45M05UC	Standard	259	Yes	5/31/2007
Bosch	SHE45M06UC	Standard	259	Yes	5/31/2007
Bosch	SHE46C02UC	Standard	315	Yes	6/13/2005
Bosch	SHE46C05UC	Standard	315	Yes	6/13/2005
Bosch	SHE46C06UC	Standard	315	Yes	6/13/2005
Bosch	SHE47C02UC	Standard	315	Yes	6/13/2005
Bosch	SHE47C05UC	Standard	315	Yes	6/13/2005
Bosch	SHE47C06UC	Standard	315	Yes	6/13/2005
Bosch	SHE53L02UC	Standard	315	Yes	7/24/2007
Bosch	SHE53L05UC	Standard	315	Yes	7/24/2007
Bosch	SHE53L06UC	Standard	315	Yes	7/24/2007
Bosch	SHE55M02UC	Standard	259	Yes	5/31/2007
Bosch	SHE55M05UC	Standard	259	Yes	5/31/2007
Bosch	SHE55M06UC	Standard	259	Yes	5/31/2007
Bosch	SHE56C02UC	Standard	315	Yes	6/13/2005
Bosch	SHE56C05UC	Standard	315	Yes	6/13/2005
Bosch	SHE56C06UC	Standard	315	Yes	6/13/2005
Bosch	SHE56C07UC	Standard	315	Yes	6/13/2005
Bosch	SHE58C02UC	Standard	290	Yes	5/4/2006
Bosch	SHE58C05UC	Standard	290	Yes	5/4/2006
Bosch	SHE58C06UC	Standard	290	Yes	5/4/2006
Bosch	SHE66C02UC	Standard	290	Yes	8/19/2005
Bosch	SHE66C05UC	Standard	290	Yes	8/19/2005
Bosch	SHE66C06UC	Standard	290	Yes	8/19/2005
Bosch	SHE68M02UC	Standard	234	Yes	7/24/2007
Bosch	SHE68M05UC	Standard	234	Yes	7/24/2007
Bosch	SHE68M06UC	Standard	234	Yes	7/24/2007
Bosch	SHE98M02UC	Standard	190	Yes	5/31/2007
Bosch	SHE98M05UC	Standard	190	Yes	5/31/2007
Bosch	SHE98M06UC	Standard	190	Yes	5/31/2007
Bosch	SHE99C05UC	Standard	290	Yes	8/19/2005
Bosch	SHU33A02UC	Standard	315	Yes	11/20/2002
Bosch	SHU33A05UC	Standard	315	Yes	8/4/2004
Bosch	SHU33A06UC	Standard	315	Yes	11/20/2002
Bosch	SHU43C02UC	Standard	315	Yes	11/20/2002
Bosch	SHU43C05UC	Standard	315	Yes	11/20/2002
Bosch	SHU43C06UC	Standard	315	Yes	11/20/2002
Bosch	SHU43C07UC	Standard	315	Yes	11/20/2002
Bosch	SHV45M03UC	Standard	259	Yes	5/31/2007
Bosch	SHV46C13	Standard	315	Yes	6/13/2005
Bosch	SHV56C03UC	Standard	290	Yes	8/19/2005
Bosch	SHV57C03UC	Standard	290	Yes	8/18/2005
Bosch	SHV68M03UC	Standard	234	Yes	7/24/2007
Bosch	SHV98M03UC	Standard	190	Yes	5/31/2007
Bosch	SHV99A13UC	Standard	290	Yes	8/5/2004
Bosch	SHX33A02UC	Standard	315	Yes	11/20/2002
Bosch	SHX33A05UC	Standard	315	Yes	11/20/2002
Bosch	SHX33A06UC	Standard	315	Yes	11/20/2002

APPENDIX D – WATER CONSERVING APPLIANCES

Bosch	SHX33M02UC	Standard	259	Yes	5/31/2007
Bosch	SHX33M05UC	Standard	259	Yes	5/31/2007
Bosch	SHX33M06UC	Standard	259	Yes	5/31/2007
Bosch	SHX36L12UC	Standard	315	Yes	8/19/2005
Bosch	SHX36L15UC	Standard	315	Yes	8/19/2005
Bosch	SHX36L16UC	Standard	315	Yes	8/19/2005
Bosch	SHX43C02UC	Standard	315	Yes	6/13/2005
Bosch	SHX43C05UC	Standard	315	Yes	6/13/2005
Bosch	SHX43C06UC	Standard	315	Yes	6/13/2005
Bosch	SHX43M02UC	Standard	259	Yes	5/31/2007
Bosch	SHX43M05UC	Standard	259	Yes	5/31/2007
Bosch	SHX43M06UC	Standard	259	Yes	5/31/2007
Bosch	SHX45C02UC	Standard	315	Yes	11/21/2006
Bosch	SHX45C05UC	Standard	315	Yes	11/21/2006
Bosch	SHX45M01UC	Standard	259	Yes	5/31/2007
Bosch	SHX45M02UC	Standard	259	Yes	5/31/2007
Bosch	SHX45M05UC	Standard	259	Yes	5/31/2007
Bosch	SHX45M06UC	Standard	259	Yes	5/31/2007
Bosch	SHX46A01UC	Standard	315	Yes	11/28/2006
Bosch	SHX46A02UC	Standard	315	Yes	11/20/2002
Bosch	SHX46A05UC	Standard	315	Yes	11/20/2002
Bosch	SHX46A06UC	Standard	315	Yes	11/20/2002
Bosch	SHX46A07UC	Standard	315	Yes	11/20/2002
Bosch	SHX46L12UC	Standard	315	Yes	8/19/2005
Bosch	SHX46L15UC	Standard	315	Yes	8/19/2005
Bosch	SHX46L16UC	Standard	315	Yes	8/19/2005
Bosch	SHX55M02UC	Standard	259	Yes	5/31/2007
Bosch	SHX55M05UC	Standard	259	Yes	5/31/2007
Bosch	SHX55M06UC	Standard	259	Yes	5/31/2007
Bosch	SHX56C02UC	Standard	290	Yes	8/19/2005
Bosch	SHX56C05UC	Standard	290	Yes	8/19/2005
Bosch	SHX56C06UC	Standard	290	Yes	8/19/2005
Bosch	SHX57C02UC	Standard	290	Yes	8/19/2005
Bosch	SHX57C05UC	Standard	290	Yes	8/19/2005
Bosch	SHX57C06UC	Standard	290	Yes	8/19/2005
Bosch	SHX68M02UC	Standard	234	Yes	7/24/2007
Bosch	SHX68M05UC	Standard	234	Yes	7/24/2007
Bosch	SHX68M06UC	Standard	234	Yes	7/24/2007
Bosch	SHX68M09UC	Standard	234	Yes	7/24/2007
Bosch	SHX98M05UC	Standard	190	Yes	5/31/2007
Bosch	SHX98M09UC	Standard	190	Yes	5/31/2007
Bosch	SHX99A15UC	Standard	290	Yes	8/5/2004
Bosch	SHX43M05UC	Standard	259	Yes	5/31/2007
Bosch	SRV53C03UC	Standard	315	Yes	3/16/2006
Bosch	SVG45E03UC	Standard	290	Yes	5/31/2007
Crosley	CDB8750T	Standard	330	Yes	6/27/2007
DCS	DD124	Compact	157	Yes	5/12/2005
DCS	DD224	Standard	308	Yes	5/12/2005
Dacor	ED24	Standard	325	Yes	9/12/2007
Dacor	EDW24	Standard	267	Yes	5/12/2005
Dacor	ID24	Standard	325	Yes	9/12/2007
Dacor	IDW24	Standard	267	Yes	7/30/2003

APPENDIX D – WATER CONSERVING APPLIANCES

Dacor	MD24	Standard	325	Yes	9/12/2007
Dacor	MDW24S	Standard	312	Yes	5/15/2006
Dacor	PD24	Standard	325	Yes	9/12/2007
Danby	DDW1802X	Standard	280	Yes	10/4/2007
Danby	DDW1805X	Standard	280	Yes	10/4/2007
Danby	DDW496X	Compact	200	Yes	10/4/2007
Danby	DDW497X	Compact	200	Yes	10/4/2007
Danby Designer	DDW1802W	Standard	280	Yes	6/17/2003
Danby Designer	DDW1805W	Standard	280	Yes	6/17/2003
Electrolux	EDW5000DSS	Standard	312	Yes	5/15/2006
Equator	CD 400	Compact	196	Yes	6/17/2004
Equator	FI 924	Standard	330	Yes	6/17/2004
Equator	SB 77	Standard	289	Yes	8/24/2007
Equator	SB 924	Standard	330	Yes	6/17/2004
Equator	WB 77	Standard	289	Yes	8/24/2007
Equator	WB 924	Standard	330	Yes	6/17/2004
Estate	TUD8750S	Standard	330	Yes	11/6/2006
Estate	TUD8750S*1	Standard	330	Yes	1/22/2007
Eterna	EDW5***L15	Standard	341	Yes	7/27/2005
Eterna	EDW5***N	Standard	341	Yes	12/13/2006
Eterna	EDW6***L15	Standard	332	Yes	7/27/2005
Eterna	EDW6***N	Standard	332	Yes	12/13/2006
EuroDesign	EDDW4BL	Standard	322	Yes	10/24/2006
EuroDesign	EDDW4SS	Standard	322	Yes	10/24/2006
EuroDesign	EDDW4WH	Standard	322	Yes	10/24/2006
EuroDesign	EDDW61IT	Standard	322	Yes	10/24/2006
EuroDesign	EDDW6BL	Standard	322	Yes	10/24/2006
EuroDesign	EDDW6SS	Standard	322	Yes	10/24/2006
EuroDesign	EDDW6WH	Standard	322	Yes	10/24/2006
Eurotech	EDW242C	Standard	290	Yes	8/9/2004
Eurotech	EDW242E	Standard	290	Yes	6/11/2007
Eurotech	EDW254E	Standard	290	Yes	8/9/2004
Eurotech	EDW274E	Standard	290	Yes	8/9/2004
Eurotech	EDW294	Standard	290	Yes	8/9/2004
Eurotech	EDW294E	Standard	290	Yes	8/9/2004
Fagor	LFA-013 IX	Standard	326	Yes	2/1/2006
Fagor	LFA-013 SS	Standard	326	Yes	2/1/2006
Fagor	LFA-019 IX	Standard	326	Yes	2/1/2006
Fagor	LFA-019 SS	Standard	326	Yes	2/1/2006
Fagor	LFA-073 IT	Standard	326	Yes	2/1/2006
Fagor	LFA-073 SS	Standard	326	Yes	2/1/2006
Fagor	LFA-25	Standard	327	Yes	12/16/2005
Fagor	LFA-65 IT	Standard	326	Yes	2/1/2006
Fagor	LFA-65 ITX	Standard	326	Yes	2/1/2006
Fagor	LFA-65 SS	Standard	326	Yes	2/1/2006
Fisher & Paykel	DD603-USA	Standard	357	Yes	6/12/2001
Fisher & Paykel	DD605	Standard	308	Yes	7/24/2007
Fisher & Paykel	DS603-USA	Compact	189	Yes	6/12/2001
Fisher & Paykel	DS605	Compact	157	Yes	7/24/2007
Frigidaire	FBD1500LF**	Standard	329	Yes	12/19/2006
Frigidaire	FDB1050RE**	Standard	327	Yes	4/17/2007
Frigidaire	FDB1051RE**	Standard	327	Yes	4/17/2007

APPENDIX D – WATER CONSERVING APPLIANCES

Frigidaire	FDB1500LF**	Standard	329	Yes	12/28/2006
Frigidaire	FDB1501FB**	Standard	329	Yes	12/19/2006
Frigidaire	FDB1502RG**	Standard	329	Yes	8/6/2007
Frigidaire	FDB1504****	Standard	329	Yes	10/25/2007
Frigidaire	FDB1980****	Standard	329	Yes	10/25/2007
Frigidaire	FDB2000RF**	Standard	329	Yes	12/19/2006
Frigidaire	FDB2415LF**	Standard	315	Yes	9/19/2006
Frigidaire	FDB2810LD	Standard	329	No	7/12/2004
Frigidaire	FDB2830CE	Standard	329	Yes	6/8/2006
Frigidaire	FDB4315L	Standard	309	Yes	7/18/2006
Frigidaire	FDB700BF	Standard	328	Yes	12/28/2006
Frigidaire	FDBB2040F**	Standard	329	Yes	6/8/2006
Frigidaire	FDBB2455F**	Standard	315	Yes	9/19/2006
Frigidaire	FDBB2865FC**	Standard	315	Yes	9/19/2006
Frigidaire	FDBB4365F	Standard	309	Yes	7/18/2006
Frigidaire	FDBB840D	Standard	328	No	6/28/2004
Frigidaire	FDP750RC	Standard	328	No	4/21/2003
Frigidaire	FDR252RB	Standard	315	Yes	7/10/2002
Frigidaire	FDS252RB	Standard	315	Yes	7/10/2002
Frigidaire	FMB330RG**	Standard	300	Yes	4/3/2007
Frigidaire	FMP330RG**	Standard	300	Yes	4/3/2007
Frigidaire	GLD2250RD**	Standard	329	Yes	12/19/2006
Frigidaire	GLD2445RF**	Standard	315	Yes	9/19/2006
Frigidaire	GLD2870R	Standard	329	No	2/28/2006
Frigidaire	GLD2875FP	Standard	329	Yes	12/28/2006
Frigidaire	GLD2875R	Standard	329	Yes	6/30/2006
Frigidaire	GLD3450RD	Standard	329	Yes	7/12/2004
Frigidaire	GLD3451R	Standard	329	Yes	7/12/2004
Frigidaire	GLD4355R	Standard	309	Yes	6/29/2006
Frigidaire	LEDB400F	Standard	329	Yes	7/18/2006
Frigidaire	LEDB500F	Standard	309	Yes	6/29/2006
Frigidaire	PLD2855RF**	Standard	315	Yes	9/19/2006
Frigidaire	PLD2875R	Standard	329	No	4/18/2006
Frigidaire	PLD2885R	Standard	329	Yes	6/30/2006
Frigidaire	PLD3461R	Standard	329	Yes	7/12/2004
Frigidaire	PLD3465RE	Standard	329	Yes	2/11/2005
Frigidaire	PLD4375R	Standard	309	Yes	6/29/2006
Frigidaire	PLD4555R	Standard	309	Yes	6/29/2006
GE Adora	GHDA4**N	Standard	341	Yes	12/13/2006
GE Adora	GHDA47*M15	Standard	341	Yes	6/8/2006
GE Adora	GHDA6**N	Standard	332	Yes	12/13/2006
GE Adora	GHDA65*L15	Standard	332	Yes	7/27/2005
GE Cafe	CDW9***N**	Standard	325	Yes	11/2/2007
Gaggeneau	DF241760	Standard	290	Yes	10/31/2005
Gaggeneau	DF290760	Standard	290	Yes	10/31/2005
Gaggeneau	DF291760	Standard	290	Yes	10/31/2005
Gaggeneau	DI291730	Standard	290	Yes	10/31/2005
General Electric	GLD4***N	Standard	341	Yes	12/13/2006
General Electric	GLD41**M15	Standard	341	Yes	2/23/2006
General Electric	GLD42**L15	Standard	341	Yes	7/27/2005
General Electric	GLD42**M15	Standard	341	Yes	10/23/2006
General Electric	GLD43**L00	Standard	341	Yes	7/27/2005

APPENDIX D – WATER CONSERVING APPLIANCES

General Electric	GLD43**L15	Standard	341	Yes	7/27/2005
General Electric	GLD43**M15	Standard	341	Yes	10/23/2006
General Electric	GLD5***N	Standard	341	Yes	12/13/2006
General Electric	GLD55**L15	Standard	341	Yes	7/27/2005
General Electric	GLD58**L15	Standard	341	Yes	7/27/2005
General Electric	GLD5900N00	Standard	341	Yes	12/13/2007
General Electric	GLD6***N	Standard	332	Yes	12/13/2006
General Electric	GLD62**L15	Standard	332	Yes	7/27/2005
General Electric	GLD63**L15	Standard	332	Yes	7/27/2005
General Electric	GLD65**L15	Standard	332	Yes	7/27/2005
General Electric	GLDL5**N	Standard	341	Yes	7/20/2007
General Electric	GSD13**N	Standard	330	Yes	3/30/2007
General Electric	GSD21**N	Standard	330	Yes	3/30/2007
General Electric	GSD23**N	Standard	333	Yes	3/30/2007
General Electric	GSD24**N	Standard	333	Yes	3/30/2007
General Electric	GSD31***N	Standard	322	Yes	12/13/2006
General Electric	GSD33**N	Standard	333	Yes	3/30/2007
General Electric	GSD40**N	Standard	337	Yes	3/30/2007
General Electric	GSD69**N	Standard	332	Yes	12/13/2006
General Electric	GSM18**J	Standard	282	Yes	12/16/2005
General Electric	GSM22**N	Standard	333	Yes	3/30/2007
Haier	ESD300	Standard	249	Yes	8/6/2007
Haier	ESD301	Standard	249	Yes	8/6/2007
Haier	ESD302	Standard	249	Yes	8/6/2007
Haier	ESD310	Standard	249	Yes	8/6/2007
Haier	ESD311	Standard	249	Yes	8/6/2007
Haier	ESD312	Standard	249	Yes	8/6/2007
Haier	ESD400	Standard	249	Yes	8/6/2007
Haier	ESD401	Standard	249	Yes	8/6/2007
Haier	ESD402	Standard	249	Yes	8/6/2007
Haier	HDB18EB	Standard	275	Yes	6/10/2005
Haier	HDB18EBS	Standard	275	Yes	6/10/2005
Haier	HDP18PA	Compact	234	Yes	11/3/2004
Heartland	HDWF-CP05	Standard	326	Yes	2/1/2006
Heartland	HDWF-CP55	Standard	326	Yes	2/1/2006
Heartland	HDWF-IN04	Standard	326	Yes	2/1/2006
Heartland	HDWF-IN05	Standard	326	Yes	2/1/2006
Hotpoint	HDA11**N	Standard	330	Yes	3/30/2007
Hotpoint	HDA21**N	Standard	330	Yes	3/30/2007
Hotpoint	HDA35**N	Standard	333	Yes	3/30/2007
Hotpoint	HDA36**N	Standard	333	Yes	3/30/2007
Hotpoint	HLD4***M15	Standard	341	Yes	6/8/2006
Hotpoint	HLD4***N	Standard	341	Yes	12/13/2006
Ikea	IUD4000R	Standard	306	Yes	6/15/2005
Ikea	IUD6000R	Standard	306	Yes	6/15/2005
Ikea	IUD8000R	Standard	330	Yes	6/22/2005
Ikea	IUD8000R*7	Standard	330	Yes	1/22/2007
Inglis	IPC2505	Standard	306	Yes	6/27/2007
Inglis	IPU2536	Standard	306	Yes	11/6/2006
Inglis	ISU9866	Standard	330	Yes	1/22/2007
Inglis	ISU98661	Standard	330	Yes	10/25/2007
Jenn-Air	JDB1080	Standard	334	Yes	7/28/2004

APPENDIX D – WATER CONSERVING APPLIANCES

Jenn-Air	JDB1090	Standard	334	Yes	3/24/2005
Jenn-Air	JDB1095	Standard	337	Yes	8/21/2007
Jenn-Air	JDB1100	Standard	334	Yes	1/12/2004
Jenn-Air	JDB1105	Standard	337	Yes	8/21/2007
Jenn-Air	JDB1250	Standard	334	Yes	12/13/2004
Jenn-Air	JDB1270	Standard	334	Yes	3/24/2005
Jenn-Air	JDB2100	Standard	337	Yes	1/12/2004
Jenn-Air	JDB2150	Standard	334	Yes	1/12/2004
Jenn-Air	JDB4000	Standard	334	Yes	5/17/2002
Kenmore	1311*	Standard	326	Yes	10/25/2007
Kenmore	1312*	Standard	312	Yes	10/25/2007
Kenmore	1313*	Standard	312	Yes	10/25/2007
Kenmore	1314*	Standard	312	Yes	10/25/2007
Kenmore	1315*	Standard	305	Yes	10/25/2007
Kenmore	1322*K601	Standard	320	Yes	11/6/2006
Kenmore	1323*	Standard	326	Yes	10/25/2007
Kenmore	1332*	Compact	174	Yes	11/3/2006
Kenmore	1333*	Standard	339	Yes	11/3/2006
Kenmore	1334*	Standard	339	Yes	11/3/2006
Kenmore	1341*	Standard	326	Yes	10/25/2007
Kenmore	1342*	Standard	312	Yes	10/25/2007
Kenmore	1343*	Standard	326	Yes	10/25/2007
Kenmore	1355*K	Standard	330	Yes	10/25/2007
Kenmore	1356*K	Standard	330	Yes	10/25/2007
Kenmore	1357*K	Standard	320	Yes	10/25/2007
Kenmore	1367*K601	Standard	320	No	11/6/2006
Kenmore	1367*K602	Standard	330	Yes	1/22/2007
Kenmore	1368*K601	Standard	320	Yes	11/6/2006
Kenmore	1368*K602	Standard	330	Yes	1/22/2007
Kenmore	1371*K601	Standard	320	Yes	11/6/2006
Kenmore	1372*K601	Standard	320	Yes	11/6/2006
Kenmore	1373*K601	Standard	320	Yes	11/6/2006
Kenmore	1374*K601	Standard	320	Yes	11/6/2006
Kenmore	1375*K602	Standard	328	Yes	11/6/2006
Kenmore	1375*K603	Standard	328	Yes	10/25/2007
Kenmore	1376*K602	Standard	328	Yes	11/6/2006
Kenmore	1376*K603	Standard	328	Yes	10/25/2007
Kenmore	1376*K603	Standard	328	Yes	10/25/2007
Kenmore	1377*K602	Standard	328	No	11/6/2006
Kenmore	1377*K603	Standard	328	Yes	6/27/2007
Kenmore	1377*K604	Standard	328	Yes	10/25/2007
Kenmore	1378*K602	Standard	317	Yes	11/6/2006
Kenmore	1378*K603	Standard	317	Yes	10/25/2007
Kenmore	1379*K602	Standard	317	No	11/6/2006
Kenmore	1379*K603	Standard	319	Yes	6/27/2007
Kenmore	1379*K604	Standard	317	Yes	10/25/2007
Kenmore	1381*K601	Standard	320	Yes	11/6/2006
Kenmore	1382*K601	Standard	320	Yes	11/6/2006
Kenmore	1383*K601	Standard	320	Yes	11/6/2006
Kenmore	1384*K	Standard	320	Yes	6/6/2006
Kenmore	1384*K601	Standard	320	Yes	11/6/2006
Kenmore	1385*K602	Standard	328	Yes	11/6/2006

APPENDIX D – WATER CONSERVING APPLIANCES

Kenmore	1385*K603	Standard	328	Yes	10/25/2007
Kenmore	1386*K602	Standard	328	Yes	11/6/2006
Kenmore	1386*K603	Standard	328	Yes	10/25/2007
Kenmore	1387*K602	Standard	319	Yes	11/6/2006
Kenmore	1387*K603	Standard	317	Yes	10/25/2007
Kenmore	1387*K603	Standard	317	Yes	10/25/2007
Kenmore	1396*K602	Standard	328	Yes	11/6/2006
Kenmore	14112400	Standard	328	Yes	10/23/2007
Kenmore	14113400	Standard	328	Yes	10/23/2007
Kenmore	14114400	Standard	328	Yes	10/23/2007
Kenmore	14119400	Standard	328	Yes	10/23/2007
Kenmore	14402400	Standard	300	Yes	9/14/2007
Kenmore	14403400	Standard	300	Yes	9/14/2007
Kenmore	14409400	Standard	300	Yes	9/14/2007
Kenmore	1441*40*	Standard	300	Yes	4/3/2007
Kenmore	1524	Standard	327	Yes	4/17/2007
Kenmore	1525*40*	Standard	329	Yes	12/19/2006
Kenmore	16157	Standard	328	Yes	2/11/2005
Kenmore	1624	Standard	327	Yes	4/17/2007
Kenmore	1625*40*	Standard	329	Yes	12/19/2006
Kenmore	16302	Standard	315	Yes	12/14/2004
Kenmore	16303	Standard	315	Yes	12/14/2004
Kenmore	16304	Standard	315	Yes	12/14/2004
Kenmore	16309	Standard	315	Yes	12/14/2004
Kenmore	17303	Standard	315	Yes	12/14/2004
Kenmore	461.14352	Standard	310	Yes	10/4/2007
Kenmore	461.17352	Standard	310	Yes	10/4/2007
Kenmore	7696*K602	Standard	328	Yes	6/27/2007
Kenmore	7696*K603	Standard	328	Yes	10/25/2007
Kenmore	7697*K603	Standard	328	Yes	10/25/2007
KitchenAid	KUD*02*3	Standard	317	Yes	11/6/2006
KitchenAid	KUD*02*4	Standard	334	Yes	1/22/2007
KitchenAid	KUD*03*****	Standard	334	Yes	10/25/2007
KitchenAid	KUDA03CT	Standard	334	Yes	6/27/2007
KitchenAid	KUDB03CT	Standard	334	Yes	6/27/2007
KitchenAid	KUDC03IT	Standard	334	Yes	6/27/2007
KitchenAid	KUDD01D	Standard	357	Yes	2/3/2005
KitchenAid	KUDD01S	Compact	189	Yes	12/21/2005
KitchenAid	KUDK03CT	Standard	334	Yes	6/21/2007
KitchenAid	KUDK03FT	Standard	334	Yes	6/27/2007
KitchenAid	KUDK03IT	Standard	334	Yes	6/27/2007
KitchenAid	KUDL03IT	Standard	334	Yes	6/27/2007
KitchenAid	KUDM03FT	Standard	334	Yes	6/27/2007
KitchenAid	KUDS03*3	Standard	317	Yes	11/6/2006
KitchenAid	KUDS03*4	Standard	334	Yes	1/22/2007
KitchenAid	KUDS03CT	Standard	334	Yes	6/27/2007
KitchenAid	KUDS03FT	Standard	334	Yes	6/27/2007
KitchenAid	KUDS03ST	Standard	334	Yes	6/27/2007
KitchenAid	KUDT03FT	Standard	334	Yes	6/27/2007
KitchenAid	KUDT03ST	Standard	334	Yes	6/27/2007
KitchenAid	KUDU03FT	Standard	334	Yes	6/27/2007
KitchenAid	KUDU03ST	Standard	334	Yes	6/27/2007

APPENDIX D – WATER CONSERVING APPLIANCES

KitchenAid	KUDW03CT	Standard	334	Yes	6/27/2007
KitchenAid	KUDX03FT	Standard	334	Yes	6/27/2007
LG Electronics	LDF681#**	Standard	294	Yes	2/10/2006
LG Electronics	LDF781#**	Standard	294	Yes	3/29/2005
LG Electronics	LDF881#**	Standard	285	Yes	1/10/2007
LG Electronics	LDF981#**	Standard	285	Yes	11/12/2007
LG Electronics	LDS581#**	Standard	294	Yes	3/29/2005
Maytag	MDB3601BW	Standard	306	Yes	10/25/2007
Maytag	MDB4651	Standard	334	Yes	4/22/2005
Maytag	MDB5601	Standard	334	Yes	4/22/2005
Maytag	MDB5651	Standard	334	Yes	8/3/2005
Maytag	MDB6601	Standard	334	Yes	4/22/2005
Maytag	MDB7601	Standard	334	Yes	5/6/2005
Maytag	MDB7751	Standard	334	Yes	6/16/2005
Maytag	MDB8551	Standard	334	Yes	9/6/2006
Maytag	MDB8601	Standard	337	Yes	3/6/2007
Maytag	MDB8751	Standard	334	Yes	5/6/2005
Maytag	MDB8751B	Standard	334	Yes	9/6/2006
Maytag	MDB8851	Standard	334	Yes	4/18/2007
Maytag	MDB8951	Standard	334	Yes	5/6/2005
Maytag	MDB8951B	Standard	337	Yes	8/21/2007
Maytag	MDB9601	Standard	337	Yes	8/3/2005
Maytag	MDB9750	Standard	337	Yes	1/12/2004
Maytag	MDBH945	Standard	334	Yes	4/22/2005
Maytag	MDBH955	Standard	334	Yes	5/6/2005
Maytag	MDBH965	Standard	334	Yes	4/22/2005
Maytag	MDBH975	Standard	334	Yes	12/16/2005
Maytag	MDBH985	Standard	334	Yes	4/18/2007
Maytag	MDBM601	Standard	334	Yes	4/22/2005
Maytag	MDBS561	Standard	334	Yes	5/6/2005
Maytag	MDBS661	Standard	334	Yes	10/17/2005
Maytag	MDBTT50	Standard	334	Yes	4/22/2005
Maytag	MDBTT60	Standard	334	Yes	4/22/2005
Maytag	MDBTT70	Standard	334	Yes	4/22/2005
Maytag	MDBTT75	Standard	334	Yes	10/15/2004
Maytag	MDC4650	Standard	334	Yes	8/3/2005
Midea	DL06-09	Standard	310	Yes	10/4/2007
Midea	DW5A	Compact	200	Yes	10/4/2007
Midea	DW5AII	Compact	190	Yes	10/4/2007
Midea	DW5B	Compact	200	Yes	10/4/2007
Midea	DW5BII	Compact	190	Yes	10/4/2007
Midea	DW5E	Compact	200	Yes	10/4/2007
Midea	DW5EII	Compact	190	Yes	10/4/2007
Midea	DW5F	Compact	200	Yes	10/4/2007
Midea	DW5FII	Compact	190	Yes	10/4/2007
Midea	EB2401	Standard	339	Yes	10/4/2007
Midea	EB2402	Standard	335	Yes	10/4/2007
Midea	EB2403	Standard	339	Yes	10/4/2007
Midea	EB2404	Standard	339	Yes	10/4/2007
Midea	EF2401	Standard	300	Yes	10/4/2007
Midea	EP2401	Standard	339	Yes	10/4/2007
Midea	EP2402	Standard	335	Yes	10/4/2007

APPENDIX D – WATER CONSERVING APPLIANCES

Midea	MB2401	Standard	290	Yes	10/4/2007
Midea	WP5AII	Compact	200	Yes	10/4/2007
Midea	WP5E	Compact	200	Yes	10/4/2007
Midea	WP5G	Compact	220	Yes	10/4/2007
Midea	WP5GII	Compact	230	Yes	10/4/2007
Midea	WP5GIW	Compact	230	Yes	10/4/2007
Midea	WP5GW	Compact	220	Yes	10/4/2007
Midea	WQP12-9213B	Standard	339	Yes	10/4/2007
Midea	WQP8-9021	Standard	280	Yes	10/4/2007
Midea	WQP8-9122	Standard	280	Yes	10/4/2007
Midea	WQP8-9223	Standard	310	Yes	10/4/2007
Midea	WQP8-9234	Standard	310	Yes	10/4/2007
Miele	G1150	Standard	339	Yes	3/9/2006
Miele	G1180	Standard	318	Yes	3/9/2006
Miele	G1470	Standard	318	Yes	3/9/2006
Miele	G2020	Standard	320	Yes	3/9/2006
Miele	G2120	Standard	320	Yes	8/17/2007
Miele	G2140	Standard	318	Yes	3/9/2006
Miele	G2150	Standard	318	Yes	3/9/2006
Miele	G2170	Standard	320	Yes	3/9/2006
Miele	G2180	Standard	318	Yes	3/9/2006
Miele	G2420	Standard	318	Yes	3/9/2006
Miele	G2430	Standard	318	Yes	3/9/2006
Miele	G2470	Standard	318	Yes	3/9/2006
Miele	G2630	Standard	312	Yes	3/9/2006
Miele	G2670	Standard	312	Yes	3/9/2006
Miele	G2830	Standard	351	Yes	3/9/2006
Miele	G818	Standard	301	Yes	8/16/2001
Miele	G832	Standard	270	Yes	8/16/2001
Monogram	ZBD07**K10	Standard	342	Yes	5/10/2005
Monogram	ZBD07**K15	Standard	332	Yes	5/10/2005
Monogram	ZBD07**N	Standard	332	Yes	12/13/2006
Monogram	ZBD1800G	Standard	294	Yes	2/3/2004
Monogram	ZBD68**K10	Standard	342	Yes	11/26/2003
Monogram	ZBD68**K15	Standard	332	Yes	11/26/2003
Monogram	ZBD68**N	Standard	332	Yes	12/13/2006
Porter & Charles	DWPC4FCSS	Standard	322	Yes	10/24/2006
Porter & Charles	DWPC6FI	Standard	322	Yes	10/24/2006
Porter & Charles	DWPC6SS	Standard	322	Yes	10/24/2006
Profile	PDW7***J15	Standard	332	Yes	5/27/2003
Profile	PDW7***N	Standard	332	Yes	12/13/2006
Profile	PDW8***J10	Standard	342	Yes	6/9/2003
Profile	PDW82**L15	Standard	332	Yes	6/8/2006
Profile	PDW82**N00	Standard	332	Yes	6/8/2006
Profile	PDW84**L15	Standard	332	Yes	6/8/2006
Profile	PDW84**N00	Standard	332	Yes	6/8/2006
Profile	PDW86**N00	Standard	332	Yes	6/8/2006
Profile	PDW87**J10	Standard	342	Yes	6/9/2003
Profile	PDW87**N00	Standard	325	Yes	6/8/2006
Profile	PDW89**N	Standard	325	Yes	6/8/2006
Profile	PDW9***J10	Standard	342	Yes	6/9/2003
Profile	PDW92**N00	Standard	325	Yes	6/8/2006

APPENDIX D – WATER CONSERVING APPLIANCES

Profile	PDW97**N00	Standard	325	Yes	6/8/2006
Profile	PDW98**N	Standard	325	Yes	12/14/2006
Profile	PDW99**N	Standard	325	Yes	6/8/2006
Roper	RUD8050S	Standard	330	Yes	11/6/2006
Roper	RUD8050S*1	Standard	330	Yes	1/22/2007
Samsung	DMR57XXX	Standard	310	Yes	10/4/2007
Samsung	DMR77XXX	Standard	310	Yes	10/4/2007
Sharp	DB4565M*	Standard	315	No	11/21/2006
Siemens	SL33A002UC	Standard	270	No	3/16/2006
Siemens	SL33A005UC	Standard	270	No	3/16/2006
Siemens	SL33A006UC	Standard	270	No	3/16/2006
Siemens	SL34A012UC	Standard	270	No	3/16/2006
Siemens	SL34A015UC	Standard	270	No	3/16/2006
Siemens	SL34A016UC	Standard	270	No	3/16/2006
Siemens	SL35A702UC	Standard	315	No	3/16/2006
Siemens	SL35A705UC	Standard	315	No	3/16/2006
Siemens	SL35A706UC	Standard	315	No	3/16/2006
Siemens	SL84A312UC	Standard	315	No	3/16/2006
Siemens	SL84A315UC	Standard	315	No	3/16/2006
Siemens	SL84A316UC	Standard	315	No	3/16/2006
Siemens	SL84A602UC	Standard	315	Yes	3/16/2006
Siemens	SL84A605UC	Standard	315	Yes	3/16/2006
Siemens	SL84A606UC	Standard	315	Yes	3/16/2006
Silhouette	DDW1806BSL	Standard	310	Yes	7/11/2005
Silhouette	DDW2405	Standard	339	Yes	10/4/2007
Silhouette	DDW2406	Standard	339	Yes	10/4/2007
Smeg	PLA68XU	Standard	320	Yes	12/11/2007
Smeg	PLA8743XU	Standard	321	Yes	12/11/2007
Smeg	STA4645U	Standard	316	Yes	12/11/2007
Smeg	STA8614XU	Standard	321	Yes	12/11/2007
Smeg	STA8743U	Standard	321	Yes	12/11/2007
Smeg	STO905U	Standard	298	Yes	12/11/2007
Summit Professional	DW2432	Standard	322	Yes	10/24/2006
Sunbeam	SNB 542 UCAB	Standard	327	Yes	12/16/2005
Sunbeam	SNB 542 UCAW	Standard	327	Yes	12/16/2005
Sunbeam	SNB 652 SAAB	Standard	326	Yes	11/22/2005
Sunbeam	SNB 652 SAAS	Standard	326	Yes	11/22/2005
Sunbeam	SNB 652 SAAW	Standard	326	Yes	11/22/2005
Sunbeam	SNB 652 SIAS	Standard	326	Yes	11/22/2005
Sunbeam	SNB 652 SIAT	Standard	326	Yes	11/22/2005
Thermador	DWHD43CF	Standard	315	Yes	6/13/2005
Thermador	DWHD43CS	Standard	315	Yes	6/13/2005
Thermador	DWHD44EF	Standard	315	Yes	5/31/2007
Thermador	DWHD44EM	Standard	315	Yes	5/31/2007
Thermador	DWHD64C*	Standard	290	Yes	8/19/2005
Thermador	DWHD64EF	Standard	290	Yes	5/31/2007
Thermador	DWHD64EM	Standard	290	Yes	5/31/2007
Thermador	DWHD64EP	Standard	290	Yes	5/31/2007
Thermador	DWHD94BF	Standard	290	Yes	8/5/2004
Thermador	DWHD94BP	Standard	290	Yes	8/5/2004
Thermador	DWHD94BS	Standard	290	Yes	8/5/2004
Thermador	DWHD94EP	Standard	290	Yes	5/31/2007

APPENDIX D – WATER CONSERVING APPLIANCES

Ultraline	DFUD042	Standard	234	Yes	8/9/2004
Ultraline	DFUD142	Standard	234	Yes	8/9/2004
Vintage	VLDW-1	Standard	322	Yes	10/24/2006
Vintage	VLDW-2	Standard	322	Yes	10/24/2006
Vintage	VLDW-3	Standard	322	Yes	10/24/2006
Whirlpool	DU1055XTS	Standard	330	Yes	11/6/2006
Whirlpool	DU1055XTS*2	Standard	330	Yes	1/22/2007
Whirlpool	DU1061XTS	Standard	330	Yes	6/27/2007
Whirlpool	DU1100XTP	Standard	330	Yes	8/2/2004
Whirlpool	DU1100XTP*9	Standard	320	Yes	11/6/2006
Whirlpool	DU1100XTP*A	Standard	330	Yes	1/22/2007
Whirlpool	DU1101XTP	Standard	330	Yes	8/2/2004
Whirlpool	DU1101XTP*9	Standard	320	Yes	11/6/2006
Whirlpool	DU1101XTP*A	Standard	330	Yes	1/22/2007
Whirlpool	DU1145XTP	Standard	330	Yes	8/2/2004
Whirlpool	DU1145XTP*9	Standard	320	Yes	11/6/2006
Whirlpool	DU1145XTP*A	Standard	330	Yes	1/22/2007
Whirlpool	DU1148XTP	Standard	330	Yes	8/2/2004
Whirlpool	DU1148XTP*1	Standard	320	Yes	11/6/2006
Whirlpool	DU1148XTP*A	Standard	330	Yes	1/22/2007
Whirlpool	DU1150XTP	Standard	334	Yes	8/2/2004
Whirlpool	DU1200XTS	Standard	330	Yes	6/27/2007
Whirlpool	DU1200XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	DU1200XTS*2	Standard	330	Yes	1/22/2007
Whirlpool	DU1201XTS	Standard	330	Yes	6/27/2007
Whirlpool	DU1201XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	DU1201XTS*2	Standard	330	Yes	1/22/2007
Whirlpool	DU1245XTS	Standard	330	Yes	6/27/2007
Whirlpool	DU1245XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	DU1245XTS*2	Standard	330	Yes	1/22/2007
Whirlpool	DU1248XTS	Standard	334	Yes	6/27/2007
Whirlpool	DU1248XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	DU1248XTS*2	Standard	330	Yes	1/22/2007
Whirlpool	DU810SWP	Standard	306	Yes	8/2/2004
Whirlpool	DU811SWP	Standard	306	Yes	8/2/2004
Whirlpool	DU850SWP	Standard	306	Yes	8/2/2004
Whirlpool	DU8955SWP	Standard	306	Yes	10/25/2007
Whirlpool	DUL240XTP	Standard	330	Yes	8/2/2004
Whirlpool	DUL240XTP*8	Standard	320	Yes	11/6/2006
Whirlpool	DUL240XTP*A	Standard	330	Yes	1/22/2007
Whirlpool	GU2200XTS	Standard	330	Yes	6/6/2006
Whirlpool	GU2200XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	GU2200XTS*2	Standard	330	Yes	1/22/2007
Whirlpool	GU2200XTS*3	Standard	330	Yes	10/25/2007
Whirlpool	GU2300XTS	Standard	330	Yes	6/27/2007
Whirlpool	GU2370XTS	Standard	330	Yes	6/27/2007
Whirlpool	GU2451XTS	Standard	320	Yes	6/6/2006
Whirlpool	GU2451XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	GU2451XTS*2	Standard	320	Yes	10/25/2007
Whirlpool	GU2455XTS	Standard	330	Yes	6/6/2006
Whirlpool	GU2455XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	GU2455XTS*2	Standard	330	Yes	1/22/2007

APPENDIX D – WATER CONSERVING APPLIANCES

Whirlpool	GU2455XTS*3	Standard	330	Yes	10/25/2007
Whirlpool	GU2700XTS	Standard	320	Yes	6/6/2006
Whirlpool	GU2700XTS*1	Standard	320	Yes	11/6/2006
Whirlpool	GU3200XTS	Standard	317	Yes	6/6/2006
Whirlpool	GU3200XTS*1	Standard	317	Yes	11/6/2006
Whirlpool	GU3200XTS*2	Standard	317	Yes	10/25/2007
Whirlpool	GU3600XTS	Standard	317	Yes	6/6/2006
Whirlpool	GU3600XTS*1	Standard	317	Yes	11/6/2006
Whirlpool	GU3600XTS*2	Standard	317	Yes	10/25/2007



CITY OF FERNLEY PUBLIC WORKS DEPARTEMENT WATER DIVISION

HIGH EFFICIENCY WASHING MACHINE REBATE PROGRAM PAGE 1

PUBLIC WORKS OFFICIAL USE ONLY

REBATE NUMBER	DATA ENTRY NAME AND DATE	DATA APPROVAL NAME AND DATE
	NAME:	NAME:
	DATE:	DATE:

PROGRAM REQUIREMENTS:

1. You must be a water customer of the City of Fernley Water Division and install the machine at your service address. Call (775) 784-9910 if you need to confirm your eligibility.
2. The machine must remain in the possession of the original purchaser, or remain at the original installation address, for at least one-year from the date of purchase.
3. The machine must be new. The machine must be a qualifying model approved by the Public Works Department Water Division. A list of qualified machines is included in the City of Fernley Water Conservation Plan.
4. Rebates are available to the following water customer groups:
 - a. Single family dwellings, including town homes and mobile homes.
 - b. Apartment complexes where washing machines are provided for tenants.
 - c. Commercial Laundromats and institutions
 - d. Apartments where tenant owns machine.

Machines intended for rental or lease do not qualify. Authorization for other uses meeting the general intent of the program may be approved by the Public Works Department Water Division on a case-by-case.

5. Maximum rebates allowable:
 - a) "[Click and insert rebate amount here]" per single family account.
 - b) "[Click and insert rebate amount here]" per commercial industrial or institutional account, such as Laundromats and Apartments, Per fiscal year (July 1 through June 30).
6. Some installations may be selected for a random inspection. At reasonable times and with reasonable notice, you agree to allow Lyon County Utilities to inspect the machine at the installation address for up to one year after purchase.
7. Rebates will be issued as a credit to the City of Fernley water bill for the installation address. Failure to comply with the terms of this program shall result in revocation of the rebate.

APPENDIX E – SAMPLE REBATE APPLICATIONS

8. The effective date of this program is "[Click here and insert date]" .
9. In the event this program is discontinued, this voucher will be honored only if received by the Public Works Department within 60 days after the date of purchase.

Please Return to: City of Fernley
Public Works Department Water Division
595 Silver Lace Blvd.
Fernley, Nevada 89408
Phone: (775) 784-9910

Note: Applicant must be a retail customer on the City of Fernley water system, Must own property or be owner's agent at installation address, and installation address must meet city code requirements.

Attention Customer: By signing this form, you agree to the terms and program conditions listed.

City of Fernley Water Acct. No.:		
Installation Address:		
Customer Name:		
Customer Phone:	Day:	Eve:
Serial # of Washing Machine:		

ATTACH RECEIPT

I have read the terms of this agreement as listed on page 1

Customer Signature

Date

Approximate age in years of the machine you are replacing.

Estimated loads of laundry per week.

In the boxes below, write the number of people in your household in each group:

Under Age 5 Age 6 to 20 Age 21 to 60 Age 61 or above

What is the primary use for the new machine?

Home ☐ Business ☐ Institution ☐ Apartment ☐

What will happen to your old machine?

Trash/Recycle ☐ Sell ☐ Donate ☐ Trade-in ☐ Other ☐

Store Name:	
Brand/Model of Washing Machine:	
Pre-Rebate Purchase Price:	
Date of Purchase:	



PUBLIC WORKS DEPARTMENT WATER DIVISION

WATER WASTE REPORT FORM

Please use this form to report water waste. Our investigators must witness the waste in progress to issue a violation form. Please provide as much information as possible of help us identify the problem.

TIME OBSERVED:

DATE OBSERVED (M/D/Y):

--	--

ADDRESS OR LOCATION OF WASTE:

STREET ADDRESS:	CITY:

MAJOR CROSS STREETS:

--

- | | |
|--|---|
| <input type="checkbox"/> OVER-WATERING
<input type="checkbox"/> BROKEN SPRINKLER
<input type="checkbox"/> TIME-OF-DAY VIOLATION
<input type="checkbox"/> ASSIGNED DAY VIOLATION | <input type="checkbox"/> FOUNTAIN / WATER FEATURE VIOLATION
<input type="checkbox"/> BROKEN PIPE OR ONSITE LEAK
<input type="checkbox"/> MISTING SYSTEM VIOLATION
<input type="checkbox"/> OTHER |
|--|---|

DESCRIPTION:

Sample Indoor Residential Water Audit Worksheet

Audit Completed By (Name): _____

Date: _____

GENERAL INFORMATION

Customer/Account Name: _____

Account No. _____

Address: _____

Telephone No. _____

E-mail Address: _____

Dwelling type (check one): ☐ Single-Family detached ☐ Single-family other ☐ Multifamily ☐ OtherMeter (check one): ☐ Separate ☐ Master

Age of dwelling (years): _____

No. of occupants: Adults: _____

Children: _____

Total No. of Occupants: _____

Number of months dwelling occupied: _____

INDOOR RESIDENTIAL WATER USE INVENTORY

Item	No. 1	No. 2	No. 3	No. 4	No. 5
TOILETS					
Gallons per flush (gpf):					
Year toilet installed:					
Retrofit Device installed? (yes/no, bag/dam)					
Year retrofit device installed:					
Leak detected? (yes/no, dye test/other)					
Leak source (flapper, ballcock, overflow tube other)					
Leak repaired? (yes/no, describe)					
SHOWERS					
Gallons per minute (gpm), full flow/typical flow					
Retrofit device installed? (yes/no, year)					
Leak detected at showerhead? (yes/no)					
Leak detected at tub diverter? (yes/no)					
Leak repaired? (yes/no, describe)					
FAUCETS (Bathroom/Lavatory)					
Gallons per minute (gpm), full flow/typical flow					
Retrofit device installed? (yes/no, year)					
Garbage disposal present? (yes/no)					
Leak detected? (yes/no)					
Leak repaired? (yes/no, describe)					
FAUCETS (Kitchen)					
Gallons per minute (gpm), full flow/typical flow					
Retrofit device installed? (yes/no, year)					
Garbage disposal present? (yes/no)					
Leak detected? (yes/no)					
Leak repaired? (yes/no, describe)					

APPENDIX G – SAMPLE WATER AUDIT WORKSHEETS

CLOTHES WASHER

Washing machine present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(If "no", skip to next item)	Year installed:
No. of loads per week:	Typical size of load: <input type="checkbox"/> Small <input type="checkbox"/> Medium <input type="checkbox"/> Large			
Gallons per wash load (gpl):	<input type="checkbox"/> Small <input type="checkbox"/> Medium <input type="checkbox"/> Large			
Leak at washer or hose connection? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No

DISHWASHER

Washing machine present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(If "no", skip to next item)	Year installed:
No. of loads per week:	Typical size of load: <input type="checkbox"/> Small <input type="checkbox"/> Medium <input type="checkbox"/> Large			
Gallons per wash load (gpl):	<input type="checkbox"/> Small <input type="checkbox"/> Medium <input type="checkbox"/> Large			
Leak at washer or hose connection? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No

WATER FILTER/REVERSE OSMOSIS (RO) PURIFIER

Water filter/RO purifier present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(If "no", skip to next item)	Shutoff switch?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Leak detected? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

WATER SOFTENER

Water softener present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(If "no", skip to next item)	Shutoff switch?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Type: Auto-regenerating?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Portable exchange?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Leak at washer or hose connection? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

EVAPORATIVE COOLER

Evaporative cooler present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(If "no", skip to next item)	Year installed:
Type (check one):	<input type="checkbox"/> Recirculating		<input type="checkbox"/> Noncirculating ("once through")	
Leak detected? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No

SPA/JACUZZI

Spa/Jacuzzi present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	(If "no", skip to next item)	Year installed:
Type (check one):	<input type="checkbox"/> Indoor	<input type="checkbox"/> Outdoor	Covered?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Capacity (gallons):	Frequency of refill (no. times):		Day/Week/Month (circle one)	
Leak detected? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No

OTHER

Other:				
Amount of water used (gallons and frequency):				
Leak detected? (yes/no)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Leak Repaired?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Additional comments:				

Sample Landscape and Irrigation Water Audit Worksheet

AUDIT COMPLETED BY (NAME):

DATE:

GENERAL INFORMATION

Customer/Account Name:

Account No.:

Address:

Customer contact person:

Telephone No.

Fax No.

E-mail address:

Customer Type (check one):

☐

Residential

☐

Golf/Sports field

☐

Industrial/Commercial/Institutional

☐

Other

Meter (check one):

☐

Separate

☐

Master

☐

System pressure:

Is recycled water currently used on site?

☐

Yes

☐

No

If "yes", describe and give amount used (e.g., gallons per year):

Pool, pond, fountain, waterfall on site?

☐

Yes

☐

No

Is pool covered when not in use?

☐

Yes

☐

No

LANDSCAPE AND IRRIGATION WATER-USE INVENTORY

IRRIGATION SYSTEM

Type:

☐

Hose

☐

Sprinkler

☐

Drip

☐

Rain catchment/cistern

☐

Other (describe)

Location:

☐

In-ground

☐

Aboveground

Irrigation controller:

☐

Manual

☐

Automatic

No. of valves:

Rain shutoff valve:

☐

Yes

☐

No

Frequency of use:

Avg. no. days per week:

Avg. no. minutes per irrigation cycle:

Irrigation time:

☐

Morning

☐

Afternoon

☐

Evening

Hours:

Irrigation months (circle all that apply):

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Irrigation water use/cycle (gal):

Beginning meter reading:

Ending reading:

Total cycle water use:

Irrigation water use/time (gal):

Avg. Day:

Avg. Week:

Avg. Month: Avg. Year:

Irrigation water use/area (%)

Lawn:

Other landscape:

Plant beds/garden:

Leaks:

Other:

Irrigation runoff:

☐

Yes

☐

No

If "yes", describe:

Leaks:

☐

Yes

☐

No

If "yes", describe:

Controller schedule reset:

☐

Weekly

☐

Monthly

☐

Season

☐

Yearly

☐

Never

Controller schedule set by:

☐

Homeowner/Site Manager

☐

Maintenance Contractor

LANDSCAPE AREA

Total lot size (sq ft):

Lot area irrigated (sq ft):

Lot area irrigated (%):

Shaded area (low, medium, high):

Irrigated area that is sloped (sq ft):

Irrigated area that is turf (sq ft):

Irrigated area that is nonturf (sq ft):

Irrigated area that is turf (%):

Irrigated area that is sloped (%):

TURF GRASS AND PLANTS

Grass type:

☐

Cool-season

☐

Warm-season

☐

Mix:

cool (%):

warm (%):

Irrigated nonturf area (describe):

Grass mow height (in.)

Excess thatch:

☐

Yes

☐

No

Dry spots:

☐

Yes

☐

No

Watering zones/valves:

Separated by plant/turf watering needs?

☐

Yes

☐

No

SOIL

Soil type:

☐

Clay

☐

Loam

☐

Sandy loam

☐

Mix (describe):

Condition:

Nutrient level:

☐

Good

☐

poor

Root depth (in.):

Moisture depth (in.):

Compaction:

☐

Light

☐

Medium

☐

Heavy

Sufficient mulch around plants?

☐

Yes

☐

No

APPENDIX G – SAMPLE WATER AUDIT WORKSHEETS

WATER FEATURES

Fountains, ponds, and waterfalls:

Rainwater harvesting/cisterns:

Pool:

Other:

Additional Comments:

LANDSCAPE AND IRRIGATION SYSTEM INSPECTION DATA (DESCRIBE CONDITION)

ITEM	VALVE/ ZONE 1	VALVE/ ZONE 2	VALVE/ ZONE 3	VALVE/ ZONE 4	VALVE/ ZONE 5	VALVE/ ZONE 6	VALVE/ ZONE 7	VALVE/ ZONE 8	VALVE/ ZONE 9	VALVE/ ZONE 10
OPERATION										
Normal run time										
Gallons per minute (gpm)										
Square footage (sq ft)										
Shade (low, medium, high)										
PLANTS										
Type: warm-season grass, cool-season grass, groundcover, mix, ornamental plants, trees, vegetables, mulch, native plants, drought tolerant plants										
Valves not operated according to plant water needs										
Valves not operated according to sun exposure										
Area over watered										
Area under watered (dry spots)										
Excess thatch buildup										
Mulch needed										
Sloped area										
Runoff										
Ponding										
SYSTEM TYPE: ROTOR, SPRAY, BUBBLER, DRIP										
Head inventory										
Rotor										
Impact										
Stream rotor										
Soaker										
Bubbler										
Full head										
Three-quarter head										
Half head										
Side spray head										
Quarter head										

APPENDIX G – SAMPLE WATER AUDIT WORKSHEETS

ITEM	VALVE/ ZONE 1	VALVE/ ZONE 2	VALVE/ ZONE 3	VALVE/ ZONE 4	VALVE/ ZONE 5	VALVE/ ZONE 6	VALVE/ ZONE 7	VALVE/ ZONE 8	VALVE/ ZONE 9	VALVE/ ZONE 10
SPRINKLER PROBLEMS										
Broken head										
Broken pipe										
Broken seal										
Broken valve										
Head clogged										
Head too high or too low										
Head stuck or tilted										
Incorrect pressure (low or high)										
Radius long or short										
Spray blocked or misdirected										
DRIP PROBLEMS										
Pinched or broken tubing										
Emiters separated from tubing										
Emiters spaced incorrectly										
Clogged/missing/broken emitters										
ADDITIONAL COMMENTS										

RECOMMENDED LANDSCAPE AND IRRIGATION WATER-EFFICIENCY MEASURES

Water-Efficiency Measure	Description

RECOMMENDED IRRIGATION SCHEDULE (SPECIFY MONTH):

Zone	No. Heads/Type	CURRENT CONTROLLER SETTING				RECOMMENDED CONTROLLER SETTING			
		Run Time (min)	Rate (gpm)	Application rate (in/watering)	Frequency (Every days)	Run Time (min)	Rate (gpm)	Application rate (in/watering)	Frequency (Every days)
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

POTENTIAL WATER SAVINGS FROM LANDSCAPE AND IRRIGATION EFFICIENCY MEASURES

POTENTIAL BENEFITS AND COSTS FROM LANDSCAPE AND IRRIGATION EFFICIENCY MEASURES

Water Conservation Plan

Sample ICI Water Audit Worksheet

AUDIT COMPLETED BY (NAME): _____

DATE: _____

GENERAL INFORMATION

Customer/Account Name: _____

Account No.: _____

Address: _____

Facility contact person: _____

Telephone No. _____

Fax No. _____

E-mail address: _____

Product(s) or Service(s): _____

SIC category(ies): _____

Facility Dimensions (for each building) in sq ft (years): _____

No. floors: _____

Width: _____

Height: _____

Age of facility _____

Avg. no. of occupants (employees and nonemployees): Female: _____

Male: _____

Total: _____

Ave. no. of days occupied/year: _____

Ave. no. of hours occupied/day: _____

Weekdays: _____

Weekends: _____

Holidays: _____

Is recycled water currently used on site? _____

☐ Yes☐ No

If "yes", describe and give amount used (e.g., gallons per year): _____

Building wastewater is: ☐ Treated on site ☐ Connected to municipal/off-site system ☐ Other (describe) _____**METER INFORMATION**

	Meter No. 1 ID No.	Meter No. 2 ID No.	Meter No. 3 ID No.	Meter No. 4 ID No.	Meter No. 5 ID No.
Meter location					
Meter type					
Reading frequency					
Units of register					
Multiplier (if any)					
Meter size					
Connection size					
Meter installation date					
Testing frequency					
Last service (date)					
Last test/calibration (dates)					

APPENDIX G – SAMPLE WATER AUDIT WORKSHEETS

ICI BUILDING/FACILITY WATER-USE INVENTORY

Item (Describe for each)	Location (building, floor)	Type and No. of Units	Average Flow Rate of Water Use Per Unit (e.g., gallons per use, per minute, etc.)	Average No. Uses Per Unit Per Day	Average Water User Per Day (365-day average)
BATHROOMS/LAVATORIES					
Drinking water fountains					
Women's					
Toilets					
Shower heads					
Sinks (faucets)					
Whirlpool					
Other					
Men's					
Toilets					
Urinals					
Showerheads					
Sinks (faucets)					
Whirlpool					
Other					
CLEANING AND SANITATION					
Manual washing					
Vehicle washing					
Steam sterilizers					
Autoclaves					
Mop sink					
Laboratory					
Other					
PROCESS WATER USES					
Process water and rinsing					
Materials transfer					
Film and x-ray processing					
Pulp, paper, and packaging					
KITCHENS AND RESTAURANTS					
Food and drink preparations					
Dishwashers					
Icemakers					
Ice cream/yogurt machines					
Garbage disposers					
Scraping troughs					
Wash down hoses					
Other					
LAUNDRIES AND LAUNDROMATS					
Washing machines					

Item (Describe for each)	Location (building, floor)	Type and No. of Units	Average Flow Rate of Water Use Per Unit (e.g., gallons per use, per minute, etc.)	Average No. Uses Per Unit Per Day	Average Water User Per Day (365-day average)
SWIMMING POOLS					
Swimming pools					
Fountains, ponds, and waterfalls					
Rainwater harvesting/cisterns					
Other					
COOLING SYSTEMS					
Once-through cooling					
Cooling towers					
Evaporative coolers					
Equipment cooling					
Other					
HEATING SYSTEMS					
Bollers/Steam generators					
Humidifiers					
Other					
LEAKS AND LOSSES					
Leaks					
Malfunctions					
Other					
MISCELLANEOUS					
Additional comments					

[illegible]

POTENTIAL WATER SAVINGS FROM ICI EFFICIENCY MEASURES

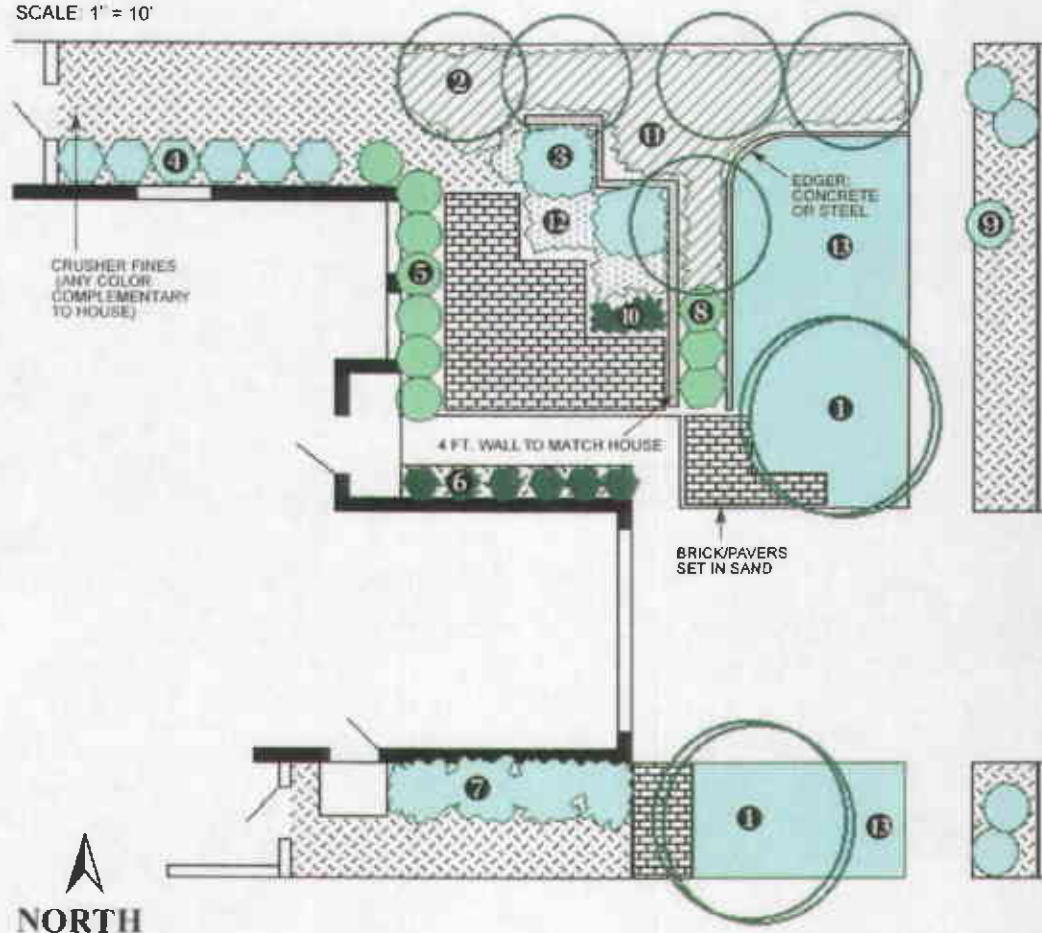
POTENTIAL BENEFITS AND COSTS FROM ICI EFFICIENCY MEASURES

City of Fernley Public Works Department Water Division

Coolscape

A Cool and Calming
Southwestern Oasis

SCALE 1" = 10'



Plant Legend

Trees

1. Desert Willow
2. New Mexico Olive or Vitex

Shrubs

3. 'Arp' Rosemary
4. Indian Hawthorne
5. Lavender
6. Compact Oregon Grape
7. Arizona Rosewood
8. Cherry Sage
9. Turpentine Bush or Beach Wormwood

Desert Accents & Succulents

10. Purple or Yellow Iceplant

Groundcovers

11. Woolly Thyme or Blue Fescue
12. Greek Germander
13. Buffalo Grass

Coolscape

Plant List

This Coolscape is designed to provide an attractive streetside landscape as well as a comfortable, private area that is useable even in the winter. The privacy is achieved by the use of a low wall (which should match or complement the house) and a grove of small trees, such as New Mexico Olives or Chaste Trees. The placement of the trees effectively adds to the privacy, and provides a backdrop along the edge of the brick patio.

The patio was placed to provide some sun even on an east exposure. Beneath the trees, a groundcover of Woolly Thyme and Blue Fescue grows in the sunnier spots and Kinnickinnick in those most shady. For best use of rainwater, the brick patio should be canted to drain away from the house and into the surrounding planting beds. The edge of the patio on the north side of the yard ends in a bed of fine crushed gravel to create a path to the rear yard. Plants that do best on the cold north exposure of homes, such as compact Oregon Grape Holly and Indian Hawthorn, are used to cope with the lack of sun, which in turn makes them more drought tolerant. Likewise, Arizona Rosewood is used along the south exposure to capture as much warmth and sun as possible. Lastly, Buffalograss is planted along the front easternmost portion of the yard where it will be the most drought tolerant.

Designed by George Radnovich, ASLA,
Siles Southwest LLC

FOR MORE INFORMATION ON THIS AND OTHER LANDSCAPES, CONTACT:



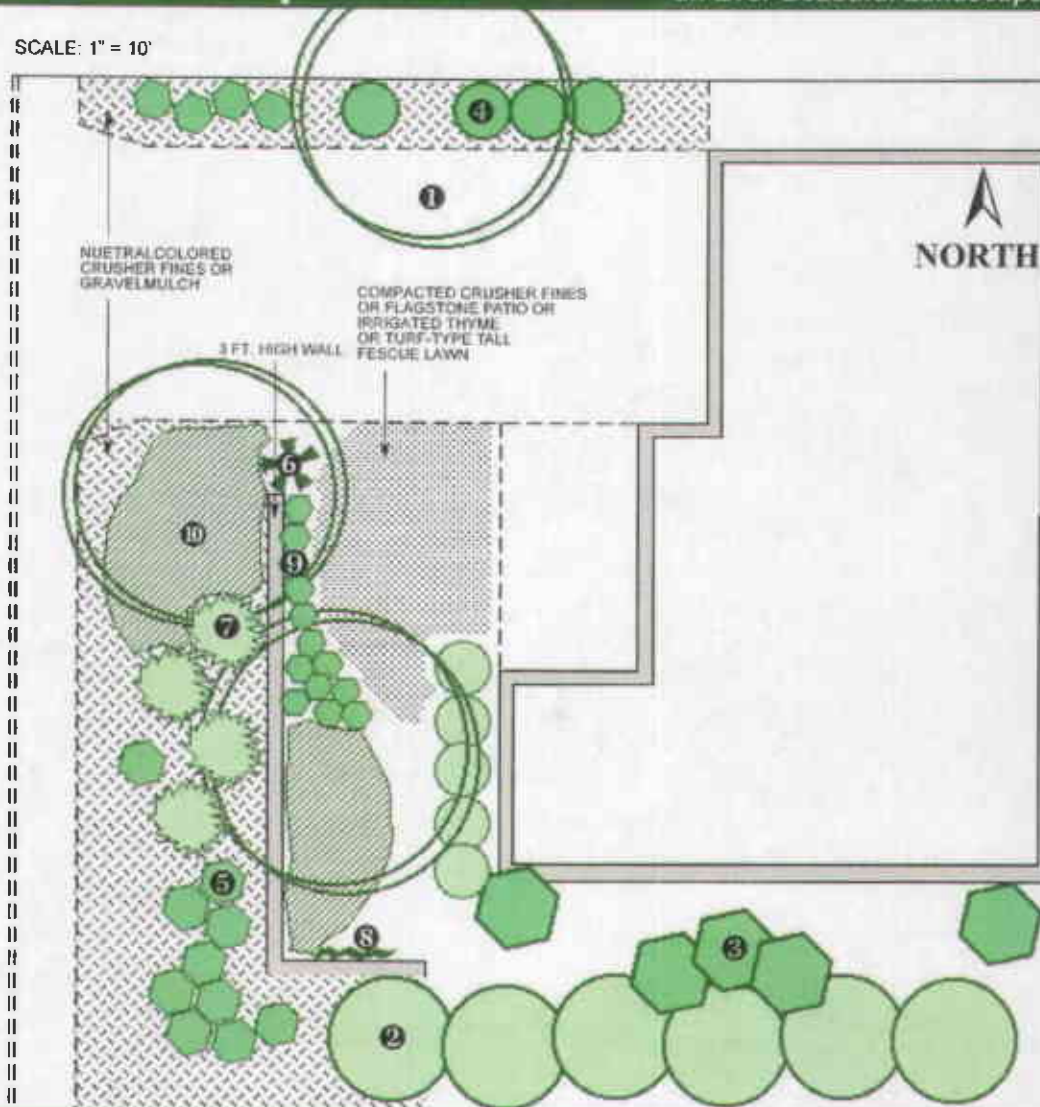
City of Albuquerque
Public Works Department
Water Resources Division
Water Conservation Office
768-3655
768-2477 TTY, or Relay NM 1-800-659-8331
www address: <http://www.cabq.gov/resources/>

Common Name	Botanical Name	Approx. Height	Approx. Spread	Light Exposure	Water Use
Arizona Rosewood	Vauquelinia californica	12'	8'	full sun	low
Beach Wormwood	Artemisia stelleriana	12'	24"	sun/shade	medium
Blue Fescue	Festuca ovina glauca	12"	12"	sun/shade	medium
Buffalograss	Buchloe dactyloides	3-8"	n/a	full sun	medium
Cherry Sage (Autumn Sage)	Salvia greggii	2'	3'	sun/shade	medium
Compact Oregon Grape	Mahonia aquifolium 'compacta'	2'	3'	shade/sun	medium
Desert Willow	Chilopsis linearis	20'	25'	full sun	low
Greek Germander	Teucrium aroanum	9"	18"	sun/shade	medium
India Hawthorn	Raphiolepis indica	3'	4'	sun/shade	medium
Kinnickinnick	Arctostaphylos uva-ursi	3'	24"	shade/sun	medium
Lavender	Lavandula angustifolia	3'	3'	sun/shade	medium
New Mexico Olive	Forestiera neomexicana	15'	15'	sun/shade	medium
Purple Iceplant	Delosperma cooperi	6"	18"	full sun	low
Rosemary 'Arp'	Rosmarinus officinalis 'Arp'	6"	4'	sun/shade	low +
Turpentine Bush	Ericameria laricina	3'	4'	full sun	low
Vitex (Chaste Tree)	Vitex agnus-castus	20'	20'	full sun	medium
Woolly Thyme	Thymus pseudolanuginosus	2"	18"	sun/shade	medium
Yellow Iceplant	Delosperma nubigenum	3"	18"	full sun	low

Greenscape

Evergreen Plants Provide
an Ever-Beautiful Landscape

SCALE: 1" = 10'



Plant Legend

Trees

1. Escarpment Live Oak

Shrubs

2. Silverberry
3. Winter Jasmine
4. India Hawthorn
5. Desert Globenallow

Desert Accents & Succulents

6. Red Hesperaloe
7. Beargrass

Groundcovers

8. Coral Honeysuckle
9. Germander
10. Creeping Rosemary

Greenscape

Plant List

Green spaces and water conservation need not conflict, nor does an oasis require the use of high water-use and high-maintenance turfgrass at the exclusion of native plants and succulents. This typical front yard area contains mostly evergreen plantings and an inviting entry experience welcoming guest and owner alike, no matter the season. A low wall and climbing evergreen vines combine to provide additional screening and intimacy for sitting out on the front porch while extending the architecture into the plantings. While designed for a smaller front area, the plantings can be increased in scale to fill a larger property.

The sculptural and leafy forms of an evergreen Escarpment Live Oak grouping provide canopy to the plantings below, which feature seasonal interest using native and adapted species. Native Beargrass provides a soft yet bold texture, as do the spiky flower stalks of Red Hesperaloe. The loose forms of the colorful Desert Globemallow massing provide pink-to-red flowers throughout much of the growing season. Germander and Trailing Rosemary generously fill in the ground surfaces with dark green color, fragrance and seasonal flowering. Durable materials prevail, while the plant spacing provides both screening from adjacent neighbors and ample room to access both sides of the home.

Designed by David Cristiani,
Quercus+SW

**FOR MORE INFORMATION ON THIS AND
OTHER LANDSCAPES, CONTACT:**



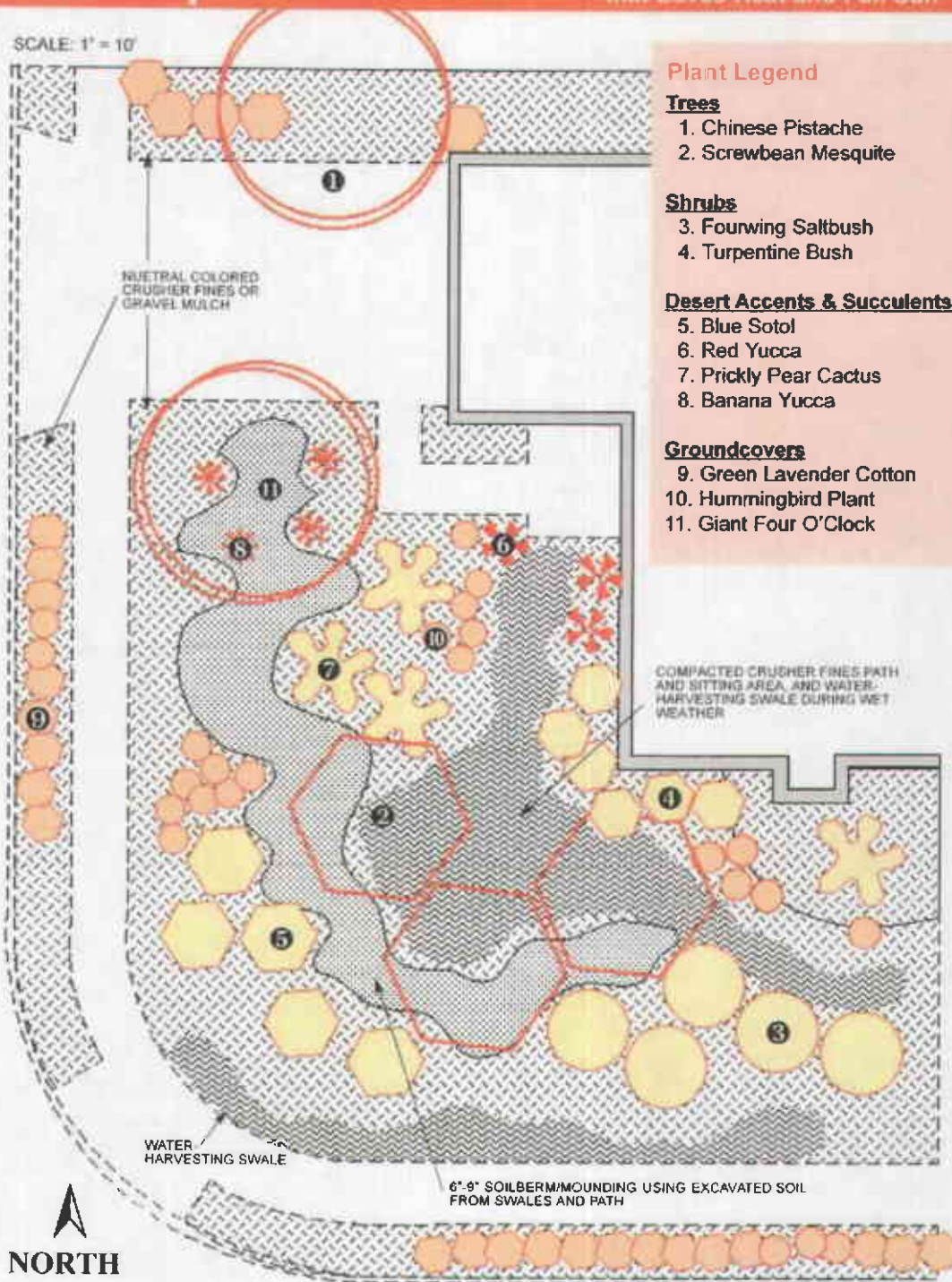
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Public Works Department
Water Resources Division
Water Conservation Office
768-3655
768-2477 TTY or Relay NM 1-800-650-8331
www address: <http://www.cabq.gov/resources/>

Common Name	Botanical Name	Approx. Height	Approx. Spread	Light Exposure	Water Use
Beargrass	Nolina texana	4'	65'	sun/shade	low
Coral Honeysuckle	Lonicera sempervirens	climbing	8'	sun/shade	medium
Creeeping Germander	Teucrium chamaedrys	12"	24"	sun/shade	medium
Creeeping Rosemary	Rosmarinus officinalis	2'	6'	full sun	medium
Desert Globemallow	Sphaeralcea ambigua	18"	24"	full sun	low
Escarpment Live Oak	Quercus fusiformis	25'	30'	sun/shade	medium
India Hawthorn	Raphiolepis indica	3'	4'	sun/shade	medium
Red Yucca	Hesperaloe parviflora	3'	3'	sun/shade	medium
Silverberry	Elaeagnus pungens	10'	10'	full sun	medium
Winter Jasmine	Jasminum nudiflorum	4'	12'	full sun	low+

Hotscape

An Attractive Native Landscape that Loves Heat and Full Sun

SCALE: 1" = 10'



Hotscape

Plant List

Many plants from higher elevations or moister areas struggle when subjected to the long, torrid, summers common in Albuquerque. The plants in this landscape are intended to thrive on heat, limited irrigation and minimal care—while exploding the popular myth that cacti and succulents look stark and don't belong near our homes. The Hotscape design embraces the environmental and visual qualities of Albuquerque's high southwestern desert location. Two areas of compacted crusher fines serve as a combined pathway, informal sitting area and a channel to harvest water from the occasional storm. A low berm provides visual interest, keeping the plants dry that cannot tolerate much extra moisture.

Modeled after the strikingly attractive and often evergreen plant communities native to the edges of Albuquerque, this design provides a great deal of visual interest throughout the year. The open, irregular canopies of Chinese Pistache and Screwbean Mesquite provide filtered shade in summer and warming sunshine in the winter—an effect suggesting a desert arroyo. Fourwing Saltbush screens the view to the street and the dark, compact Turpentine Bush adds a pleasant fragrance with yellow fall flowers. The last, crucial ingredient to this design is the generous use of native desert accent plants, including the bold, blue-green forms of Sotol, Desert Prickly Pear, and Banana Yucca. These local signature plants are accented further with small masses of seasonal color from low perennials and groundcovers, attracting both hummingbirds and passing neighbors!

Designed by David Cristiani,
Quercus+SW

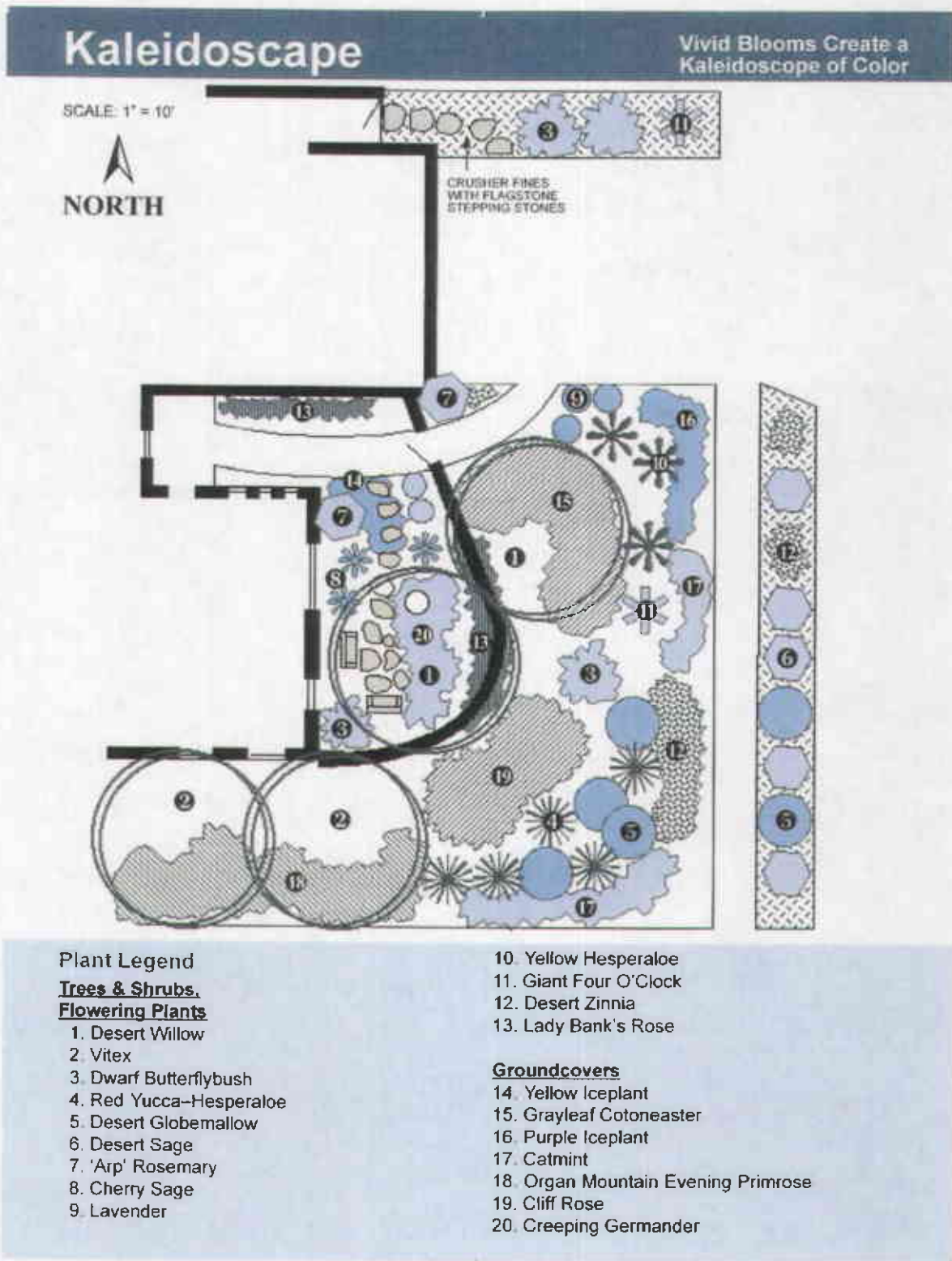
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Public Works Department
Water Resources Division
Water Conservation Office
768-3655

768-2477 TTY, or Relay NM 1-800-659-8331
www address: <http://www.cabq.gov/resources/>

Common Name	Botanical Name	Approx. Height	Approx. Spread	Light Exposure	Water Use
Banana Yucca	Yucca baccata	4'	5'	full sun	low
Blue Sotol	Dasyllirion wheeleri	5'	4'	sun/shade	low
Chinese Pistache	Pistachia chinensis	60'	60'	full sun	medium
Fourwing Saltbush	Artemisia canescens	5'	6'	full sun	low
Giant Four O'Clock	Mirabilis multiflora	4'	4'	full sun	low +
Green Lavender Cotton	Santolina chamaecyparissus	2'	5'	full sun	low
Hummingbird Plant	Zauschneria californica	2'	3'	full sun	medium
Prickly Pear Cactus	Opuntia species	4-6'	6-8'	full sun	low
Red Yucca	Hesperaloe parviflora	3'	3'	sun/shade	medium
Screwbean Mesquite	Prosopis pubescens	20'	20'	full sun	low+
Turpentine Bush	Ericameria laricina	3'	4'	full sun	low



Kaleidoscope

Plant List

Color has a more dramatic impact in a garden if plants with strong flower colors are juxtaposed against one another. In this Kaleidoscope, the blue-purple blooms of Dwarf Butterfly Bush, Desert Sage, Catmint, Lavender and Vitex are contrasted by the rose-pink and magenta blooms of Desert Willow, Cherry Sage, Creeping Germander, Giant Four O'clock, Purple Iceplant, Red Yucca and Desert Globemallow. Yellow tones are provided by Desert Zinnia, Yellow Iceplant, Yellow Hesperaloe and Lady Banks Rose. Using several different plants with similar color palettes prolongs the blooming season and provides unity to the landscape.

While vivid color may be the appeal of the garden from spring through autumn, a landscape also needs "good bones"—enough evergreen foliage and shapely plant forms to provide interest when the blooming fireworks are over for the year. Rosemary, Lady Bank's Rose, Cliffrose, Desert Sage, Hesperaloes and Cotoneaster all contribute seasonal flower color as well as evergreen foliage in a broad range of greens and silvers to carry the garden through the colder winter months. In addition to their colorful warm-season blooms, the curving trunks and branches of Desert Willow and Vitex add sculptural value all year.

Designed by Judith Phillips,
Bernardo Beach Native Plant Farm

**FOR MORE INFORMATION ON THIS
AND OTHER LANDSCAPES,
CONTACT:**

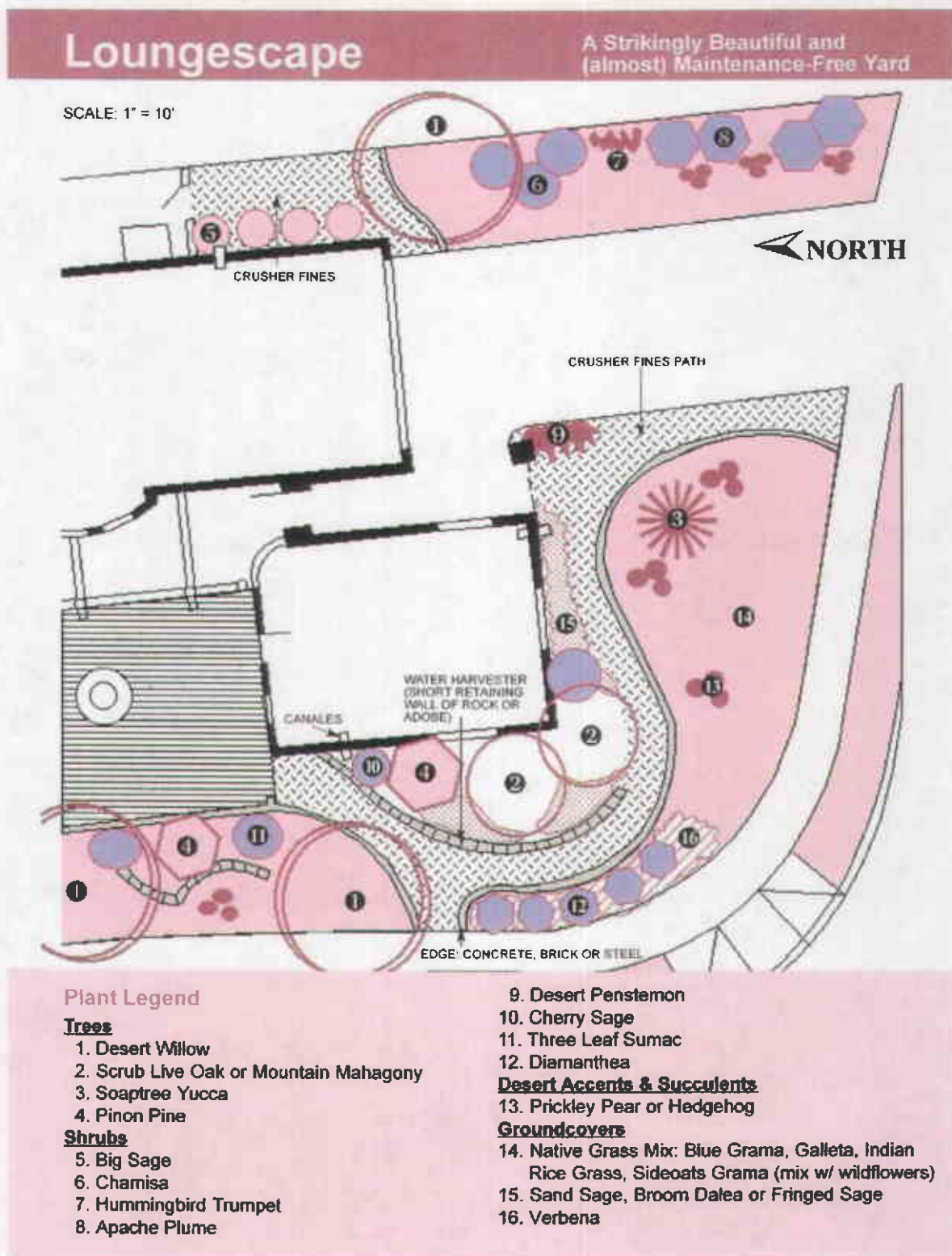


City of Albuquerque
Public Works Department
Water Resources Division
Water Conservation Office
768-3655

768-2477 TTY, or Relay NM 1-800-859-8331
www address: <http://www.cabq.gov/resources/>

Common Name	Botanical Name	Approx. Height	Approx. Spread	Light Exposure	Water Use
Catmint	Nepeta mussini x faassonii	8"	24"	sun/shade	medium
Cherry Sage (Autumn Sage)	Salvia greggii	2'	3'	sun/shade	medium
Cliffrose	Cowanlia mexicana*	8'	6'	full sun	low
Creeping Germander	Teucrium chamaedrys	12"	24"	sun/shade	medium
Desert Globemallow	Sphaeralcea ambigua	18"	24"	full sun	low
Desert Sage	Salvia dorrii	2'	3'	full sun	low
Desert Willow	Chilopsis linearis	20'	25'	full sun	low
Desert Zinnia	Zinnia grandiflora	4"	6"	full sun	low +
Dwarf Butterfly Bush	Buddleia davidii nanhoensis	4-5'	4-5'	full sun	low +
Giant Four O'clock	Mirabilis multiflora	4'	4'	full sun	medium
Grayleaf Cotoneaster	Cotoneaster buxifolia	2'	9'	full sun	medium
Lady Banks' Rose	Rosa banksiae	10'	10'	full sun	medium
Lavender	Lavandula angustifolia	3'	3'	sun/shade	medium
Organ Mountain Evening Primrose	Oenothera organensis	2'	4'	sun/shade	medium
Purple Iceplant	Delosperma cooperi	5"	18"	full sun	low
Red Yucca	Hesperaloe parviflora	3'	3'	sun/shade	medium
Rosemary 'Arp'	Rosemarinus officinalis 'Arp'	6"	6"	sun/shade	low +
Vitex (Chaste Tree)	Vitex agnus-castus	20'	18"	full sun	medium
Yellow Iceplant	Delosperma rubigenum	3"	4"	full sun	low
Yellow Hesperaloe	Hesperaloe parviflora	3'	4'	sun/shade	medium

* Cowanlia is sometimes listed as Purshia.



Loungescape

Plant List

While there is no such thing as a totally maintenance-free landscape, this Loungescape comes as close to free of maintenance as possible in Albuquerque. The key to this approach is to mimic the natural environment with the look and feel of New Mexico grasslands and Piñon-Juniper forests. Instead of a traditional lawn, native grasses offer a more natural look, accented by a Soaptree Yucca and Desert Willows for color and dappled shade. Water-thrifty cacti are used for interest, color and a contrast of textures. Finely crushed gravel acts both as a mulch for the plants up against the house and a walking path to the rear of the house. For simplicity and ease of maintenance, there is no formal edge between the walking path and the foundation plantings next to the house. Rainwater is harvested from the roof and other impermeable surfaces, then directed to plants via canals, weep holes and a short retaining wall.

Short evergreen trees such as Mountain Mahogany and Piñon Pine provide year-long interest. Three-Leaf Sumac was added for fall color, Cherry Sage for summer color and Sand Sage and Fringed Sage for winter foliage. Big Sage was purposely placed along the eastern side of the house to lessen the exposure to the harsh, hot western sun, which would make the plants more water-thirsty. Lastly, spots of color are added throughout the landscape for interest.

Designed by George Radnovich, ASLA,
Sites Southwest LLC

**FOR MORE INFORMATION ON THIS AND
OTHER LANDSCAPES, CONTACT:**



City of Albuquerque
Public Works Department
Water Resources Division
Water Conservation Office
768-3855

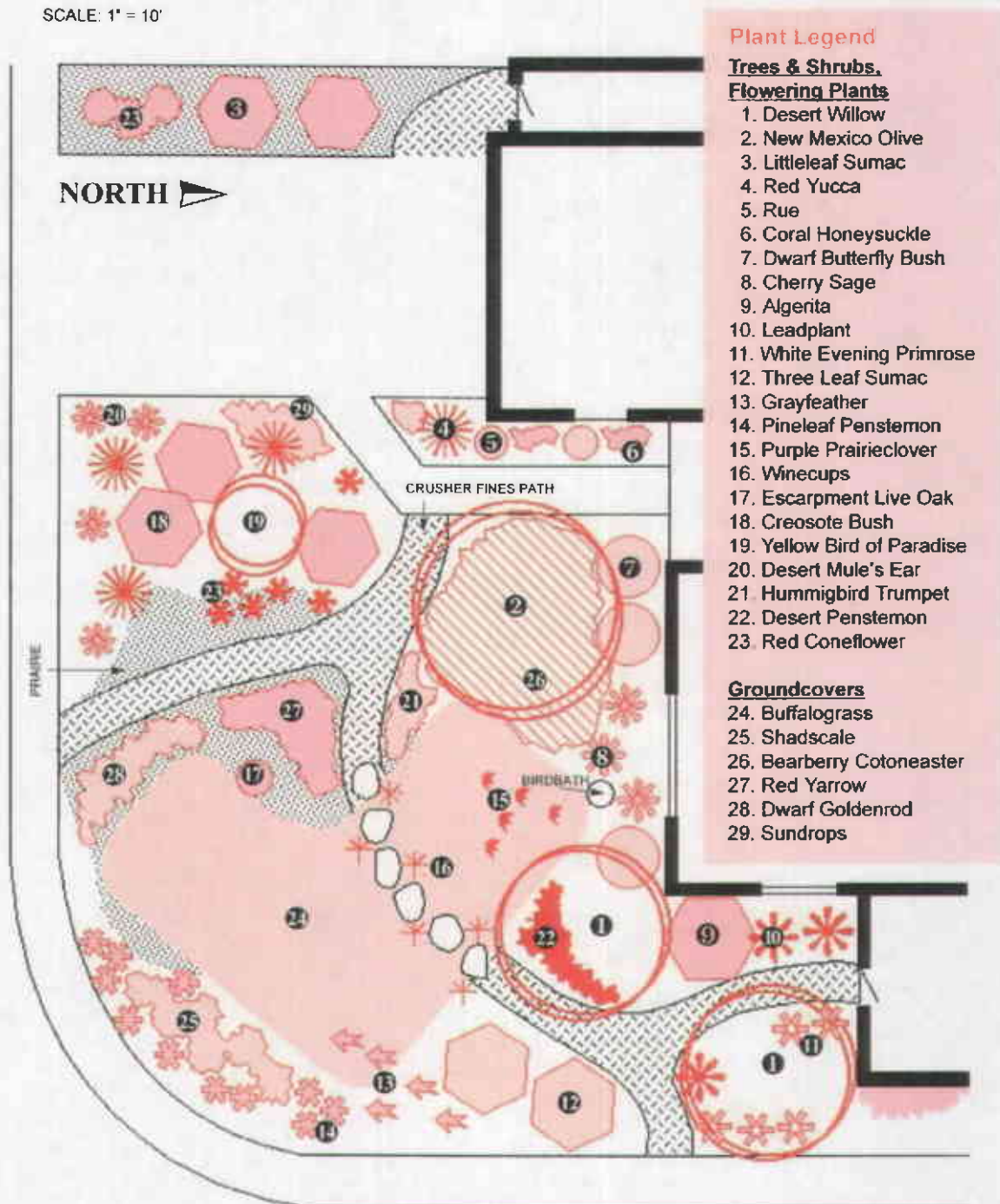
768-2477 TTY, or Relay NM 1-800-659-8331
www address: <http://www.cabq.gov/resources/>

Common Name	Botanical Name	Approx. Height	Approx. Spread	Light Exposure	Water Use
Apache Plume	Fallugia paradoxa	5'	5'	full sun	low
Big Sage	Artemisia tridentata	4'-12"	4'	sun/shade	low
Blue Grama	Bouteloua gracilis	3'	n/a	full sun	low+
Broom Datea	Psoralea arguta	3'	3'	full sun	low
Chamisa (Rabbitbrush)	Chrysothamnus scoparia	5'	5'	full sun	low
Cherry Sage (Autumn Sage)	Savaria greggii	2'	3'	sun/shade	medium
Damianita	Chrysactinia mexicana	2'	2'	full sun	low
Desert Penstemon	Penstemon pseudospectabilis	3'	3'	full sun	low
Desert Willow	Chilopsis linearis	20'	25'	full sun	low
Fringed Sage	Artemisia frigida	18"	18"	full sun	low
Galleta	Artemisia tridentata	14"	14"	full sun	low
Hedgehog Cactus	Hylotelephium teretica	2'	3'	sun/shade	low+
Hummingbird Trumpet	Echinocereus spp.	4'	4'	full sun	low
Indian Ricegrass	Anisacanthus thurberi	18"	18"	full sun	medium
Mountain Mahogany	Oryzopsis hymenoides	10'	6'	full sun	medium
Piñon Pine	Cercocarpus montanus	30'	20'	full sun	low
Pickly Pear Cactus	Pinus edulis	4'-6'	6'-8'	full sun	low
Sand Sage (Threadleaf Sage)	Opuntia species	4'	4'	full sun	low
Shrub Live Oak	Artemisia filifolia	18"	20"	sun/shade	medium
Sideoats Grama	Quercus turbinella	30'	24"	full sun	medium
Soaptree Yucca	Bouteloua curtipendula	15'	5'	full sun	low
Three-leaf Sumac	Yucca elata	6'	6'	full sun	low+
Verbena	Rhus trilobata	9'	18"	full sun	low
	Verbena peruviana				

Wildscape

A Celebration of Wildlife
in Your Landscape

SCALE: 1" = 10'



Wildscape

Plant List

Plant for wildlife and you will host a never-ending garden party. Wildscapes should have tiers of canopy to provide shelter and food for a wide variety of wildlife, including birds, hummingbirds, bees and butterflies. Tall trees provide shade and shelter. Dense thickets of middle-height shrubs provide spaces for roosting and nesting and also give the landscape a sense of enclosure. Open areas with low-growing groundcovers provide areas for nesting and foraging, and the colorful flowers and berries appeal to people as well as winged visitors. A mix of evergreen plants for cover, brilliant flowers for nectar and pollen, and fruits and seeds opening through the seasons will keep your wildlife friends fat and happy.

In this Wildscape, the Gayfeather, Dwarf Goldenrod, Leadplant, Yarrow, Rue, Grasses and Dwarf Butterfly Bush are lures for butterflies. Hummingbirds are drawn to plants with nectar-rich tubular flowers, such as Desert Willow, Penstemons, Cherry Sage, Coral Honeysuckle and Red Yucca. Local songbirds and quail will be attracted by New Mexico Olive, Sumacs, Creosote Bush, Desert Mule's Ear, Coneflowers, Shadscale, Gayfeather and Algerita.

Designed by Judith Phillips,
Bernardo Beach Native Plant Farm

**FOR MORE INFORMATION ON THIS
AND OTHER LANDSCAPES,
CONTACT:**



City of Albuquerque
Public Works Department
Water Resources Division
Water Conservation Office
768-3655

768-2477 TTY or Relay NM 1-800-659-6331
www.address: <http://www.cabq.gov/resources/>

Common Name	Botanical Name	Approx. Height	Approx. Spread	Light Exposure	Water Use
Algerita	<i>Berberis haematocarpa</i>	6'	10'	full sun	low+
Bearberry Coneflower	<i>Coloniastrum damieri</i>	12"	n/a	sun/shade	medium
Blue Grama	<i>Bouteloua gracilis</i>	4-12"	n/a	full sun	low+
Buffalograss	<i>Bouteloua dactyloides</i>	3-8"	8'	full sun	medium
Coral Honeysuckle	<i>Lonicera sempervirens</i>	climbing	8'	sun/shade	low
Creosote Bush	<i>Larrea tridentata</i>	6"	3'	full sun	low
Desert Mule's Ear	<i>Wyethia scabra</i>	2'	3'	full sun	low
Desert Penstemon	<i>Penstemon pseudospectabilis</i>	3'	3'	full sun	low
Desert Willow	<i>Chilopsis linearis</i>	20'	25'	full sun	medium
Dwarf Butterfly Bush	<i>Buddleia davidii nana</i>	5'	5'	sun/shade	medium
Dwarf Goldenrod	<i>Scoldago hybrids</i>	3'	3'	sun/shade	medium
Encampment Live Oak	<i>Quercus laudiformis</i>	25'	30'	full sun	low+
Gayfeather	<i>Liatris punctata</i>	4'	4'	full sun	low+
Hummingbird Trumpet	<i>Anisacanthus thurberi</i>	2'	3'	full sun	low+
Leadplant	<i>Amarpha canescens</i>	8"	10'	full sun	medium
Littleleaf Sumac	<i>Rhus microphylla</i>	15'	20'	full sun	low+
Maxmillian Sunflower	<i>Helianthus maximiliana</i>	12'	32"	sun/shade	medium
New Mexico Olive	<i>Forsteria neomexicana</i>	32"	32"	full sun	low+
Pinelost Penstemon	<i>Penstemon pinifolius</i>	18"	24"	full sun	medium
Prairieclover	<i>Petalostemon purpureum</i>	3'	3'	sun/shade	medium
Red Coneflower (Mexican Hat)	<i>Ratibida columnifera</i>	3'	3'	full sun	medium
Red Yarrow	<i>Achillea millefolium</i>	3'	3'	full sun	medium
Red Yucca	<i>Hesperaloe parviflora</i>	3'	3'	full sun	medium
Rue	<i>Ruta graveolens</i>	2'	2'	full sun	low
Shadscale	<i>Amelanchier alnifolia</i>	30"	24"	full sun	medium
Sideoats Grama	<i>Bouteloua curtipendula</i>	18"	18"	full sun	low
Sundrops	<i>Rhus trilobata</i>	6"	12"	full sun	low+
Three Leaf Sumac	<i>Celastrus hirtellus</i>	12"	12"	full sun	low
White Evening Primrose	<i>Oenothera caespitosa</i>	24"	24"	full sun	low+
Wirecup (Hoppy Mallow)	<i>Callitriche involucrata</i>	10'	10'	full sun	low
Yellow Bird of Paradise	<i>Caesalpinia gilliesii</i>				

HOW TO READ YOUR WATER METER

Locate Your Meter

Most water meters will be located outside in front of your house, next to the curb, or on the street under a steel or concrete lid.

Reading Your Meter

There are two basic types of meters; a dial with a needle that measures in tenths of a cubic foot and a digital meter that measures from 100,000 down to 1 cubic foot (these can also measure in gallons). Most meters also have a small triangle on the face called a flow indicator. It will move when there is water passing through it. Read your meter from left to right.

Measuring Water Use Activities

It is possible to measure the water use of certain activities. These activities include but are not limited to the following:

- Shower or bath use.
- Watering the lawn.
- Washing clothes or dishes.
- Flushing a toilet
- Washing a car

To measure the water use of an activity, do the following (in order):

1. Make sure all water off. This includes all faucets (inside and out), appliances, swamp coolers, or icemakers.
2. Write down the meter reading to two decimal places.
3. Perform the activity. Be sure to measure the amount of time in minutes that the activity required.
4. At the end of the activity read the meter again. Subtract the first meter reading from the second one. The result is the amount of water used for the activity in cubic feet or gallons. To convert from cubic feet to gallons multiply the result by 7.48. To determine how many gallons per minute were used divide the gallon amount by the number of minutes the activity required. You should now have the water used amount in *gallons per minute*.

Detecting Leaks

1. Make sure all water off. This includes all faucets (inside and out), appliances, swamp coolers, or icemakers.
2. Write down the meter reading and time of day to the minute.
3. Wait at least an hour before reading the meter a second time. Make sure no water is used during the test. Read the meter at the end of the test and record the time to the minute. If the flow indicator is moving during the test you either have a leak or a meter malfunction.
4. Subtract the first meter reading from the second. Multiply the remainder by 7.48. The result is the amount of water in gallons that passed through the meter during the test period. Also record the time duration of the test.

5. Divide the amount of water by the number of minutes in the test. The result is the amount of water that went through the meter in *gallons per minute*.
6. To measure amount lost over time multiply the gallons per minute by the following:
 - 1,440 for gallons per day.
 - 43,920 for gallons per month.
 - 527,040 for gallons per year.
7. Locating a leak is a process of elimination. Shut off one toilet at a time at the wall. Go to the meter and check to see if the flow indicator (triangle) is still moving. If the triangle has stopped you have discovered the leak. If not go on to the next one and repeat the above steps.
8. Check your sprinkler system. Shut off the system at the anti siphon valve and check the meter.
9. Check your main service line. You will need to shut off the valve between your house and the meter. If the meter stops the leak is between the meter and the valve.
10. These steps can be repeated for every fixture and fitting in your home. In the event you cannot locate the leak, you should call a professional plumber to find and fix it.

¹ Vickers, Amy *Water Use and Conservation*. WaterPlow Press, 2001

² Vickers, Amy *Water Use and Conservation*. WaterPlow Press, 2001